AL-EQ-HBK-61-202A

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(Scott)

ARMSTRONG LABORATORY

PROJECT MANAGER'S GUIDE TO THE SCIENTIFIC AND TECHNICAL INFORMATION (STINFO) PROGRAM AND TECHNICAL PUBLICATIONS PROCESS

ENVIRONICS DIRECTORATE
139 Barnes Drive, Suite 2
Tyndall AFB FL 32403-5323

DECEMBER 1993

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AIR FORCE MATERIEL COMMAND
TYNDALL AIR FORCE BASE, FLORIDA 32403-5323

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This document is submitted as an historical record of work performed. Limitations of the available media rendered editing impractical; therefore it is retained "as is."

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The objective of this handbook is to assist directorate project managers with the preparation of AL/EQ technical publications. Used with AL/EQ Handbook 61-202B, Author's Guide to the Preparation of Technical Reports, will provide uniform and helpful criteria for preparing and processing technical documents for publication. This handbook emphasizes the team approach to entering timely, high quality research results into the Air Force and DoD Scientific and Technical Information (STINFO) program. The overall emphasis is on a final product that will be well-organized, aesthetically presented and readable for both technical and layperson audiences.

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PREFACE

This handbook is designed to give AL/EQ project managers a basic overview of the Air Force and DOD Scientific and Technical Information (STINFO) Program and provide a guide for processing, publishing, and distributing technical reports. The information contained in this handbook will help us reach the Air Force goal of sharing Air Force STINFO with DOD and other government agencies, academia, private industry, and the world at large. More important, the handbook identifies the basic programs and players, tells you who does what, and identifies persons and agencies you can contact for help.

This handbook is for use by the project manager who must process a technical document for publication. Information for authors is contained in AL/EQ Handbook 61-202B, Author's Handbook for Preparation of Technical Reports. If you are also an author, you will need to use both handbooks. In any event, you need both in your library.

Standards for technical documents contained in this handbook represent the minimum acceptable criteria for documents produced by this Directorate. Procedures outlined here are as binding as those found in AL/EQ Operating Instruction 61-2.

Many valuable comments were received from our divisions and have been considered or incorporated in the handbook. Because this handbook is for your use, your comments or questions are invited at any time. Contact the AL/EQ STINFO Program Manager at Extension 6259.

This handbook has been reviewed by the Public Affairs Office (PA) and is approved for public release.

This handbook has been reviewed and is approved for publication.

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INTRODUCTION

A. OBJECTIVE

The objective of this handbook is to assist directorate project managers in preparation of AL/EQ technical reports and other documents. Used with AL/EQ handbook 61-202B, Author's Guide to the Preparation of Technical Reports, it will provide uniform and helpful criteria for preparing and processing technical reports and other technical documents for publication. This handbook emphasizes the team approach to entering timely, high-quality research results into the Air Force and DOD Scientific and Technical Information Program. The overall emphasis will be on a final product that will be well-organized, aesthetically presented, and readable for both technical and layperson audiences.

B. BACKGROUND

Air Force Instruction 61-202, United States Air Force Technical Publications Program, sets forth requirements for timely publication of quality technical documents. Air Force Policy Directive 61-2, Scientific and Technical Information Program establishes a metric for reporting the success of our publishing function. In addition, ANSI Standard Z39.18-1987, Scientific and Technical Reports, Organization, Preparation, and Production, imposes the minimum amount of standardization needed to help disseminate the results of our research and development and foster the exchange of information.

Because of the diversity of contract reports generated by this directorate, a uniform standard is needed for the preparation of technical documents. It saves time and money if an author knows from the beginning exactly what is expected in the final report. In addition, the reader needs to have the material presented in such a way that complexity is not increased by flaws in organization, style, and structure. AL/EQ Handbook 61-202B, Author's Handbook for Preparation of Technical Reports, is designed to help the writer by clarifying requirements in the ANSI Standard and providing examples that will help in preparing the report.

It is insufficient, however, merely to help the author of the report. Project managers who must process their technical reports from inception to publication must have a working knowledge of how the process works, who the key players are, and how they can best assure that Air Force STINFO goals are met. For this reason, this handbook has been developed as a separate entity.

C. SCOPE

This handbook will provide "cradle-to-grave" directions and examples that will help you to understand the Scientific and Technical Information (STINFO) Program and to play a vital role in this program; it will tell you who can help you Perhaps even more important, it spells out procedures required by AL/EQ Operating Instruction 61-2.

Although some overlapping of materials and examples within the two handbooks is unavoidable, information contained in this handbook is not usually needed by the author of the report. You may need to use both handbooks as needed, especially if you are both the author and project manager.

THE SCIENTIFIC AND TECHNICAL INFORMATION PROGRAM (AFPD 61-2)

The Scientific and Technical Information (STINFO) Program is outlined in AFPD 61-2 and a series of accompanying Air Force Instructions This program is designed to make your job easier and help you to share information gleaned from your R&D efforts with other scientists and engineers all over the world. You need to know what the program is, what it does, what your role is, and who the players are that can help you make your role more effective.

A. PROGRAM OBJECTIVE

AFPD 61-2 states that the objective of the USAF STINFO Program is to ensure that all scientific and technical information generated under Air Force RDT&E programs makes a timely impact on DOD and national R&D efforts. This entails interchange of scientific and technical information within and among Air Force organizations, DOD components, federal agencies, government contractors, and the national and international scientific and technical community. Specific goals of the program are:

1. To improve mission effectiveness.
2. To collect, produce, disseminate, and exchange STINFO in a controlled and effective manner.
3. To support information needs of managers, scientists, engineers, and technicians.
4. To increase productivity and effectiveness of research and programs.
5. To improve military capabilities through research and application of new technologies.
6. To maximize use of R&D resources.
7. To eliminate costly duplication of research.
8. To facilitate transition and transfer of technology.

B. THE SCIENTIFIC AND TECHNICAL INFORMATION (STINFO) PROGRAM MANAGER

The Air Force STINFO Program is managed by SAF/AQ. To ensure success of the program, AFPD 61-2 requires that each Air Force Laboratory, Major Air Command, and Separate Operating Agency appoint a STINFO Program Manager to be assisted by local STINFO officers, as specified in AFI 61-201, Responsibilities of Local STINFO Officer. Our local STINFO Program Manager (AL/EQPP) must:

1. Set up programs to obtain scientific and technical information to meet the needs of the organization.
2. Provide support for a domestic technology transfer program.
3. Ensure timely input of information to the Work Unit Information System (WUIS) database.
4. Assure that at least basic literature searches are performed before establishment of a Work Unit.
5. Ensure that STINFO Program is coordinated with the Data Management Program.
6. Ensure that all technical data produced are reviewed and properly marked to control secondary distribution.
7. Establish a Technical Publications Program to ensure timely publication of technical documents. This includes a tracking system.
8. Monitor operation of Information Analysis Centers.
9. Help plan and coordinate information for technical meetings.
10. Conduct local STINFO orientation programs for scientists and engineers.
11. Attend MAJCOM Conferences and DTIC Users' Conferences.

12. Control secondary distribution of limited distribution documents.
13. Coordinate pre-release review of STINFO with Public Affairs and Foreign Disclosure.

C. STINFO PROGRAM RESOURCES

An effective STINFO Program is not just the work of one individual; rather it takes the combined efforts of every function and person in the Laboratory. The STINFO Program Manager must coordinate the activities of multiple resources and functions.

The Technical Information Center (TIC) is an indispensable asset in making available the information that a project officer needs in managing a project from start to finish. Our trained librarians:

1. Obtain reference materials
2. Search On-line databases
3. Perform literature searches
4. Provide storage of Information
5. Respond to requests for information

We are obligated to share our STINFO with other scientists and engineers all over the world. Our technical documentation staff helps us to produce timely, readable, and usable documents that help us to transition and transfer our technologies. They assist us with our technical documents from inception to publication. Their specific taskings include:

1. Input Work Unit Summaries to Defense Technical Information Center
2. Edit, publish, and distribute quality technical documents
3. Track technical documents through all phases of publication

In short, technical documentation provides the quality input of information that feeds the worldwide technical library system and ensures that scientists will be aware of your technologies. This not only avoids costly duplication of research; it fosters cooperation with other laboratories.

The Defense Technical Information Center (DTIC) acts as a central repository and clearinghouse for the exchange of technical information inside and even outside the DOD. DTIC personnel:

1. Answer user requests
2. Provide bibliographic data
3. Record Work Unit Summaries
4. Provide users with copies of technical documents
5. Share technical information with R & D community
6. Feed unlimited distribution information to worldwide community through the National Technical Information Service

DTIC facilitates the STINFO Program by sharing information with whoever the laboratory designates to receive it. As a producer of information, you can use DTIC to assure widest dissemination of your technical information, according to your instructions. As a user, you can obtain up-to-date

information about related research in your particular field. Of particular interest are three databases maintained by DTIC, the Research and Technology Work Unit Information System, the Technical Report Database, and the Independent Research and Development Database:

The Research and Technology Work Unit Information System is a database of current DOD research being performed; this is commonly referred to as the WUIS database

The Technical Report (TR) database is a collection of publications documenting completed RDT&E. It also contains interim results of ongoing work.

The Independent Research and Development (IR&D) database is a collection of documents pertaining to independent research conducted by industry, exclusive of contractual research. This database of contractor's independent research efforts, although shared with DOD, is proprietary and is made available only to selected Department of Defense terminals.

DTIC facilitates technology transfer by making unlimited distribution documentation available to the worldwide scientific and engineering community through the National Technical Information Service (NTIS). NTIS, an agency of the Department of Commerce, is the central source for the public sale of U.S. Government-sponsored RDT&E reports, as well as for foreign technical reports and other analyses, prepared by national and local government agencies, their contractors, or grantees.

Customers of NTIS include (foreign and domestic) information centers, and libraries, business and industry, Federal agencies, colleges and universities, local governments, foreign embassies, professionals and entrepreneurs. Unclassified and unlimited distribution documents are submitted by DTIC to NTIS for public sale. Keep this in mind when you decide that a technical report is suitable for unlimited distribution.

A number of specialized Information Analysis Centers have been established throughout the DOD. These centers:

1. Collect and analyze data about a subject area
2. Publish analyses of information
3. Assist project officers with meetings
4. Help you determine the value of information in your research field

The STINFO Program Manager is responsible for the entire program. This person must:

1. Control flow of information
2. Help you process your document through PA Security and Policy Review
3. Help you choose limitation statement for document if needed
4. Provide qualitative review of technical information
5. Track publication and distribution of technical information

A number of other individuals within the laboratory or agency assist both you and the Laboratory STINFO Program Manager in processing, publishing, sharing, and sometimes controlling your information. The Public Affairs

Office must approve release of all information given to the general public (Security and Policy Review). The Foreign Disclosure Policy Officer advises and coordinates requests for information from foreign countries. The Data Management Officer assures that necessary clauses are provided in your contract to ensure that the technical information you receive is what you want and that this information is protected from premature release.

This section has provided a short overview of the STINFO Program. The remainder of this handbook will provide more details on who does what and which processes are followed.

PREPUBLICATION REQUIREMENTS

Although the quality of the work we do is often reflected in the technical document produced, the foundation of a successful technical document lies in some key functions that must be performed before the author writes the initial draft. Indeed, our success depends on creation of a Work Unit Summary, use of our technical library to perform at least the DTIC Literature searches, and assuring the necessary contract data requirements to produce a satisfactory draft report. The information contained in this section should help you to consider each of these requirements.

A. WORK UNIT INFORMATION SYSTEM (WUIS) (AIR FORCE INSTRUCTION 61-203)

The cornerstone of what we do in research and development is accountability for the money we spend. As part of this accountability, you must complete Work Unit Information System (WUIS) Summaries on each of your projects. These are part of the overall program to share research with other scientists and engineers throughout the world and provide a basis to compare the results of your project with what you had anticipated. In addition, WUIS Summaries constitute a part of the DTIC Database that helps to avoid costly duplication of research. DD Form 1498 was previously used; a recent change uses the DTIC Worksheet shown and explained in Appendix A.

AFR 61-203 defines a Work Unit as the smallest segment into which research or technology units are divided. Each work unit:

    1. Has a specific objective, a finite duration, and results in an end product.
    2. Is technically distinct in scope, objective, and duration from other research efforts with which it may be aggregated.
    3. Is recorded on a WUIS Worksheet and reported on-line to DTIC.

A WUIS summary is essentially a progress report on your work effort. It describes each work unit in terms of what, where, for whom, for how long, and how much progress has been made. In short, it enters your R & D efforts into an ongoing database, accessible to the entire DOD and DOD contractor community.

WUIS summaries will be completed at the beginning of each project and updated annually, until they are closed out. They serve as database project reports on your research and development.

    1. Objectives. The objectives of the WUIS are to:

        a. Help program managers identify DOD S&T efforts in a broad range of scientific disciplines and technologies.
        b. Permit coordination of programs to avoid costly duplication of research efforts.
        c. Help engineers and scientists determine the existence and content of current and past efforts related to their own work.

d. Help scientists and engineers identify individuals working in their technical areas of interest.

e. Allow scientists and engineers to maintain current awareness through periodic reviews of pertinent work units. For example, the first part of your literature search before beginning a project will be the WUIS Database maintained by DTIC.

f. Enhance effectiveness of DOD contractor community by providing status and progress of ongoing R & D Work.

2. Use of WUIS Database

A number of people inside and outside the Department of Defense may use the WUIS database. These include:

a. Scientists and engineers involved in research who are performing basic literature searches before undertaking a project.

b. Government contractors or potential government contractors looking for research and development opportunities.

c. Members of congress who are interested in how the R&D budget is being spent or where duplicate effort is being expended.

d. Other interested parties.

The multiplicity of use emphasizes the need for accuracy and completeness, as well as the timeliness of entry and updating the WUIS summary.

3. Role of DTIC

Defense Technical Information Center maintains and provides an on-line WUIS database, but this is only as good as the information you provide. DTIC provides its users with information about who is doing what, where, and how much money is being spent. Equally important, it provides you with a point of contact. DTIC indexes information by several different categories for easy retrieval from a database.

You can assist DTIC and its users by providing timely, accurate, and readable information about the status of your projects.

4. Major Elements of Work Unit Information

The major elements of work unit information are shown in worksheet format in Appendix A.

5. Reporting Requirements

Each technically distinct laboratory effort (from 6.1 through 6.3a) must be reported. The initial WUIS summary must be recorded in the planning stages of a new project, but not before researching the DTIC databases. This assures sharing of information and eliminates duplication of research efforts.

WUIS summaries must be entered into DTIC:

    a. Initially, before project is funded.
    b. Update entries at least annually.
    c. Update entries at any time that information changes.
    d. To close out the summary when technical effort has ended.
    e. Each WUIS should state that at least one technical report will result from this effort, with publication normally within 180 days after the summary is closed out.

6.   On-Line Transmission to DTIC

After you have completed or updated your WUIS summary, the office automation clerk may use either a computer disk or an on-line system to transmit this information to DTIC. The system used must be compatible with DTIC.

DTIC feedback is provided in summaries that tell us whether a document has been correctly transmitted. The bottom line is that if your document has not been received and recorded by DTIC, you do not have a WUIS Summary, regardless of your effort. Cost-effective research and development depend on your accuracy and timeliness in feeding information to the system. You can help make the system work by providing usable information. The WUIS Summary is the first step in tracking your project and keeping others informed of your progress.

All WUIS summary inputs will be reviewed by the STINFO Program Manager before submission to DTIC. The following items will be of special interest:

    a. A requirement for at least one technical report or other technical documentation should be written in on the initial WUIS summary. This should be updated to reflect receipt of draft, Technical Report Number or publication.
    b. Closeout WUIS summaries will be reviewed to assure that at least a draft technical report has been submitted and a suspense date for final will be issued to the project officer.

B. DATA MANAGEMENT

An important function of cost-effective program management is to determine which data are essential to delivery of the product to a customer in a usable form. Many valuable taxpayer's dollars can be lost by generation of needless data. The art of data management is to get what we need, in a format we can use, and either share it or protect it, depending on national security and goals. After-the-fact attempts to correlate, rewrite, and publish data are costly, and can be avoided by good management practices.

1. Definition of Data

Data come in a wide variety of forms of recorded information. These can include reports, specifications, provisioning packages, films, video and audiotapes, computer software documentation, technical manuals, design sheets, blueprints, photographs, plans, analyses, proposals, procedures, and studies. In short, data comprise anything recorded, regardless of form, that is needed to support and document your research.

Data are acquired to maintain visibility, to control the program, to make decisions and define the design, or even a basis for being able to replicate laboratory research.

2. Data Management Directives

The basic data management directives are:

NUMBER   TITLE

DODD 5000.1   DEFENSE ACQUISITION
DODI 5000.2   DEFENSE ACQUISITION MANAGEMENT
DOD 5010.12M   PROCEDURES FOR THE ACQUISITION AND MANAGEMENT OF
                 TECHNICAL DATA
DOD 5010.12.L   ACQUISITION MANAGEMENT SYSTEMS AND DATA REQUIREMENTS
                 CONTROL LIST (AMSMDL)

3. Data Management Officer's Role

The Data Management Officer will help you to obtain the data you need for successful transition or completion of your project by:

a. Procuring minimum essential data based on firm requirements with justification.

b. Assuring that data items are selected from the DOD-authorized data list, except as authorized.

c. Specifying presentation of data in contractor format, when practical.

d. Continuous assessment of need during program life.

The Armstrong Laboratory Data Management Officer at Brooks AFB, is preparing a computerized data management package for all directorates. In the interim, we rely on contract assistance.

4. Establishing Data Requirements

Data requirements should be considered from the time a requirement for a task is levied and reviewed at each phase of writing the statement of work and the Purchase Request package. The data requirements should be firm and should only include those data which are needed.

Two tools are available to help you establish data requirements and assure that the data prepared by the contractor meet your needs. These are the Data Item Description (DID) and the Contract Data Requirements List.

The DID (DD Form 1664) is a numbered document describing a particular type of data (technical reports, photographs, videos, etc.) and previously approved by the Department of Defense (see Figures 1 and 2). These are published and listed in the Acquisition Management Systems Data and Data Requirements Control List (AMSDL), available in our Technical Information Center. The AMSDL is composed of four parts:

I. Source Documents and Related DIDs by Data Functional Area Assignments

II. Numerical Listing of DIDs

DATA ITEM DESCRIPTION

1. TITLE	2. IDENTIFICATION NUMBER
Scientific and Technical Reports	DI-MISC -80711

3. DESCRIPTION/PURPOSE

3.1 Scientific and Technical Reports describe and disseminate to the analytical, scientific and technical community the precise nature and results of analytical studies, research, development, test and evaluation (RDT&E) on an assigned task(s). Scientific and Technical Reports may be definitive for the subject presented, exploratory in nature, or an evaluation of critical subsystem or of technical problems.

4. APPROVAL DATE (YYMMDD)	5. OFFICE OF PRIMARY RESPONSIBILITY (OPR)	6a. DTIC APPLICABLE	6b. GIDEP APPLICABLE
881202	S/DD	X	

7. APPLICATION/INTERRELATIONSHIP

7.1 This DID contains the format requirements and preparation instructions for the information product generated by the specific and discrete task requirement as delineated in the contract.

7.2 This DID is applicable to the organization, preparation and production of technical publications.

7.3 This DID supersedes UDI-S-23272C, DI-S-4057 and DI-S-3591A.

7.4 Defense Technical Information Center (DTIC) Cameron Station Alexandria, VA 22304-6145

8. APPROVAL LIMITATION	9a. APPLICABLE FORMS	9b. AMSC NUMBER
	SF 298,	S4578

10. PREPARATION INSTRUCTIONS

10.1 _Reference document._ The applicable issue of the documents cited herein, including their approval dates and dates of any applicable amendments, notices, and revisions, shall be as specified in the contract.

10.2 Document format shall be in accordance with ANSI Z39.18 Scientific and Technical Reports: Organization, Preparation and Production.

10.3 Document content shall be clearly written, describe accomplishments and other facts adequately and with no technical errors, and be acceptable for release. If Scientific and Technical Reports when sent to DTIC are marked unclassified unlimited they should be accompanied by a letter certifying that they have been cleared for public release and sale; to include foreign nationals.

11. DISTRIBUTION STATEMENT

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

DD Form 1664, MAR 87   _Jun 86 edition may be used until exhausted._   Page 1 of 1 Pages

Figure 1. Data Item Description for Technical Reports (DI-MISC 80711)

DATA ITEM DESCRIPTION

1. TITLE	2. IDENTIFICATION NUMBER
STILL PHOTO COVERAGE	DI-MISC-80169

3. DESCRIPTION/PURPOSE

3.1 Still photo coverage provides the Government with visual records to observe, analyze, and evaluate overall and specific elements of program development and progress. These records provide a pictorial medium for the exchange of technical

(Continued on page 2)

4. APPROVAL DATE (YYMMDD)	5. OFFICE OF PRIMARY RESPONSIBILITY (OPR)	6a. DTIC REQUIRED	6b. GIDEP REQUIRED
860516	N/TD		

7. APPLICATION/INTERRELATIONSHIP

7.1 This data item description (DID) contains the format and content preparation instructions for still photographic prints and negatives required by 3.4 of DOD-T-29055 (TD).

7.2 This data item is designed for contracts involving RDT&E activity when events of interest to Government management are anticipated.

(Continued on page 2)

8. APPROVAL LIMITATION	9a. APPLICABLE FORMS	9b. AMSC NUMBER
		N3850

10. PREPARATION INSTRUCTIONS

10.1 <u>Source document</u>. The applicalbe issue of the document cited herein, including its approval date and dates of any applicable amendments and revisions, shall be as reflected in the contract.

10.2 The items prepared will be 4x5-inch (10.2x12.7 centimeters (cm)) black and white and/or color original negatives with two matching proof prints. Contractors will include color photography suitable for high quality reproduction of program highlights only. Color photography will be exposed on 4x5-inch (10.2x12.7cm) film. When negative color material is used, the original color negative and one matching positive color transparency will be included. Contractors may furnish still photography in sizes other than described above only when approved by the procuring contracting officer.

10.3 <u>Identification</u>. Contractors will letter the following data in the widest clear margin of the negative or transparency on the acetate side starting from the left: Negative number, calendar year, contractor, security classification, and automatic time-phased downgrading notation.

10.3.1 No lettering will appear on the exposed picture area. If necessary, prepare and include a transparent title strip.

10.3.2 Assign negative numbers in sequence starting with number 1 at the beginning of each calendar year.

10.3.3 Place each black-and-white negative in a separate negative preserver. Color materials will be placed in separate protective transparent sleeves and placed inside separate negative preservers.

DD Form 1664, FEB 85   Previous edition is obsolete   PAGE __1__ OF __2__ PAGES

Figure 2. Data item Description for Photographs (DI-MISC-80169)

III. Key Word Index of DIDs
IV. Cancelled/Superseded List of Source Documents and DIDS

You may write a DID if there is not one that meets your needs. The Data Management Officer will process the DID for approval. DIDs must be developed according to DOD MILSTD 963A, Data Item Descriptions (DIDs), Preparation of.

The CDRL (DD Form 1423) is a way of obtaining data from a contract to include special tailoring of a DID to meet your requirements, in short, your basic tool for assuring that you get the data item you want. (Figure 3 contains an example of a CDRL that tailors a particular DID to what is actually needed.)

Specifications and standards should be tailored in the Statement of Work (SOW) to assure that each source document invokes only minimum needs. DIDs should be tailored on the CDRL to delete words, phrases, and paragraphs that are not required. You may not add requirements to an approved DID.

Your STINFO Program Manager is concerned with helping you to obtain the best quality product with the least effort and cost. This means that we must provide the contractor with adequate instructions for preparing the data.

5. Limiting of Data:

Not all data generated under a contract are releasable to the general public. The controlling Government office is responsible for assigning appropriate distribution limitation. Some data must be protected for reasons of national security, protection of proprietary rights, or for other reasons listed in DOD directives. Since you do not know at the beginning of Request for Proposal preparation which data should be limited, you should provide distribution statements for all data items. This requirement should be written into the CDRL. If the information is later determined oappropriate for public release, the restriction can be lifted by the controlling office. The STINFO Program Manager can help with this requirement. The following directives apply to limitation of technical documentation:

NUMBER	TITLE
DOD 5010.12M	PROCEDURES FOR THE ACQUISITION AND MANAGEMENT OF TECHNICAL DATA
DOD 5230-24	DISTRIBUTION STATEMENTS ON TECHNICAL DOCUMENTS
AFI 61-204	CONTROLLING THE DISTRIBUTION OF CLASSIFIED AND UNCLASSIFIED STINFO
MIL-STD-1806	MARKING TECHNICAL DATA PREPARED BY OR FOR THE DEPARTMENT OF DEFENSE

6. Cost-Effective Data Management

As a project manager, you are the key to cost-effective data management. You must:

Form Approved
OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 110 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503. Please DO NOT RETURN your form to either of these addresses. Send completed form to the Government Issuing Contracting Officer for the Contract/PR No. listed in Block E.

A. CONTRACT LINE ITEM NO.	B. EXHIBIT	C. CATEGORY: N/A REF DOD 5010.12M AMSDL		
0001	A	TDP ___ TM ___ OTHER ___		
D. SYSTEM/ITEM	E. CONTRACT/PR NO.	F. CONTRACTOR		
PROJ	(PR Number)	(Enter if known)		

1. DATA ITEM NO.	2. TITLE OF DATA ITEM	3. SUBTITLE
A001	SCIENTIFIC AND TECHNICAL REPORTS	(Enter Type)

17. PRICE GROUP

18. ESTIMATED TOTAL PRICE

4. AUTHORITY (Data Acquisition Document No.)	5. CONTRACT REFERENCE	6. REQUIRING OFFICE			
DI-MISC-80711 —	SEC C, PARA 3.1	AL/HRTA			

7. DD 250 REQ	9. DIST STATEMENT REQUIRED	10. FREQUENCY	12. DATE OF FIRST SUBMISSION	14. DISTRIBUTION			
XX		ONE/R	20 MAC			b. COPIES	
8. APP CODE	A	11. AS OF DATE	13. DATE OF SUBSEQUENT SUBMISSION	a. ADDRESSEE	Draft	Final	
A		19 MAC	24 MAC			Reg	Repro

16. REMARKS	a. ADDRESSEE	Draft	Reg	Repro
BLK 4: DID TAILORED TO DELETE LAST SENTENCE PARA 10.3.	AL/HRTA	2	3	1
BLK 8: APPROVAL/DISAPPROVAL BY AIR FORCE BY LETTER WITHIN 30 DAYS AFTER RECEIPT. DISAPPROVAL REQUIRES CORRECTION AND RESUBMISSION WITHIN 15 DAYS AFTER RECEIPT OF AIR FORCE COMMENTS.	AL/EQPP STINFO	LT	LT	LT
BLK 14: SUBMIT ONE COPY DRAFT AND REG ON FLOPPY DISK, (size), IN ASCII. SUBMIT REPRODUCIBLE COPY, FINAL CORRECTED VERSION, CAMERA READY, UNBOUND, SUITABLE FOR OFFSET REPRODUCTION.				

SAMPLE

| 15. TOTAL → | | 2 | 3 | 1 |

G. PREPARED BY	H. DATE	I. APPROVED BY	J. DATE
JOHN DOE, LCM AL/HRTA (602) 988-6561	92-SEP-06	PAT LADWIG, AL DMO AL/XPP (512) 536-3978	92-SEP-06

DD Form 1423-1, JUN 90   Previous editions are obsolete.   Page 1 of 1 Pages
1007/183

Figure 3. Contract Data Requirement List Tailoring a DID

a. Establish and justify minimum essential data requirements in your functional area. This applies especially to assuring that an acceptable technical report is received on time.

b. Determine an acceptable cost range for the required data, based on their intended use.

c. Review and approve required data for technical accuracy.

d. Submit data to STINFO for qualitative review.

e. Track required data to insure timely delivery.

Your STINFO Program Manager will provide matrix support in the following areas:

a. Monitor Work Unit Information System input.

b. Review Contract Package to ensure that data needs are clearly stated. (This applies to both PR and MIPR packages.)

c. Assist with distribution statements protecting data from the beginning.

d. Write form letter to contractor with copy of Author's Handbook for Publication of Technical Reports (Example in Figure 4).

e. Provide editing services.

f. Prepare final camera-ready copy for publication.

g. Distribute published report and submit copies to Defense Technical Information Center.

7. Statement of Work (SOW)-DID-CDRL Interface

To understand the interrelationships between the SOW, the DID, and the CDRL, you must first remember that the SOW lists a number of work tasks that will generate studies, tests, designs, analyses, etc. Data are the byproducts of these tasks and are used to document the results.

Although the optimum SOW does not order, describe or discuss data, it does use work words to describe the tasks that generate the data. It uses action verbs such as study, analyze, design, test, determine, plan for, collect, maintain, accumulate, document, construct, record, evaluate, maintain, build, devise, model, etc.

DIDs and CDRLs give specific details on preparation and delivery of data. A SOW refers to a specific CDRL but, in itself, should not give instructions for preparing and submitting data.

In a Purchase Request, the DID and the CDRL are used to describe how data will be prepared and when they will be delivered. If a MIPR is used, because there is no DID or CDRL, it may become necessary to put specific requirements in a SOW. This becomes especially important, when dealing with DOE- or EPA-related laboratories, where standards for technical reports seem, at best, substantially different from those of this Directorate.

8. Cost of Data

The cost of data depends on many factors. For example, if the data would be generated as part of the normal effort required by the customer and

DEPARTMENT OF THE AIR FORCE
ARMSTRONG LABORATORY (AFMC)
TYNDALL AIR FORCE BASE, FLORIDA

AL/EQPP (STINFO)   16 Dec 93
139 Barnes Drive, Suite 2
Tyndall AFB FL 32403-523

Dr Michael D. Overham
ADA Technologies, Inc.
304 Inverness Way, South
Englewood, CO 80112

Dear Dr. Overham

We have been notified by Dr Joseph Wander that you will be producing at least
one technical report for our Armstrong Laboratory Environics Directorate. As
Scientific and Technical Information Program Manager, I am interested in
timely and cost-effective sharing of information with the worldwide research
and development community.

To make you aware of our stylistic requirements and to help you prepare your
technical reports, I am attaching a copy of AL/EQ HBK-61-202B. "Handbook fo
Authors of Technical Reports." Using this handbook from preparation of the
initial draft through production of a camera-ready copy should make both your
job and mine easier.

I am also the Laboratory Technical Editor. If I can assist you at any time
during preparation of this report, please feel free to call me at (904)
283-6259.

LARRY L. TESTERMAN   1 Atch: Handbook
Scientific and Technical
Information Program Manager

Figure 4.   STINFO Program Manager Letter to Contract Authors

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no special format is required, the cost would probably be minimal. If however, the data must be developed and put in a particular format, costs would escalate. These factors should be kept in mind. Cost-effectiveness depends on obtaining the required quality and usability at a minimum cost. This is why data management is a combined effort requiring cooperation between project manager, Data Management Officer, and STINFO Program manager.

It is especially important that you ensure that you will receive a satisfactory technical report from your contractor. To help you do this, the STINFO Program Manager will coordinate on _all_ contract documents requiring a technical effort to ensure that technical report requirements have been included. This especially applies to MIPRs and interdepartmental documents where DIDs and CDRLs are not used.

C. TECHNICAL INFORMATION CENTER SERVICES

1. The Technical Information Center (TIC)

Our Technical Information Center is a research-oriented service facility that gathers, organizes, and delivers customized civil and environmental engineering information to meet the needs of scientists, engineers, and technicians in the worldwide Air Force Civil Engineering community. These trained technical information specialists are especially geared to providing you with individualized support of your research and development project.

2. Literature Searches

The first thing you need to do before you begin a project is to find out what, if any, research is being done in the area you plan to explore. This is necessary for several reasons:

a. You need to know if the work has already been done, before you commit the taxpayer's dollars. This is especially true if someone has already found out the research is not feasible.

b. You need to know who is working on such a project and how far their research has progressed. You may even find someone who has some research and development money available that you can use.

c. You definitely need to know the state of the art of the effort in which you are working.

Your literature search must include, as a minimum, the Work Unit Information System database, and the Technical Report database. These DTIC databases can be routinely searched by your Technical Information Center personnel who can also perform on-line searches of thousands of commercial and government databases.

Literature searches will be compared with new starts as a metric in AFPD 61-2; We must keep track of these because we must report them each quarter. DTIC Form 64 or a comparable form will be used to request DTIC searches (See Figure 5).

REQUEST FOR DTIC DATABASE PRODUCTS See Instructions on Reverse		1. DoD USER CODE		FOR DTIC USE ONLY REPORT CONTROL NUMBER	
2. BBOXX 　　　　AL/EQ TO:　Technical Information Center 　　　139 Barnes Drive, Suite 2 　　　Tyndall AFB FL 32403-5323 　　　PO Stop 37		3. CONTRACT/GRANT/PROGRAM NO.		DATE RECEIVED	
		4. NAME OF REQUESTER		5. OFFICE CODE	
		6. CHECK ONE ☐ DoD　☐ GOVT　☐ CONT		7. REQUESTER'S TELEPHONE NUMBER	

8a. DATABASES(S) TO BE SEARCHED	b. FREQUENCY ONE TIME	9a. CLASSIFICATION	b. CHECK IF DESIRED AND AUTHORIZED	10. DATA SOURCE(S) DESIRED			
WUIS	SCHEDULED (RECURRING)	UNCLASS.	RESTRICTED DATA	ARMY		ALL DoD	
TR BIBLIOGRAPHIC	c. ACCOMPANYING OUTPUT	CONF.	CNWDI	NAVY		ALL SOURCES	
IR&D (DoD Only)	INDEXES | TABLE OF CONTENT	SECRET		AIR FORCE			
REFERRAL LISTING		11. DATE REQUESTED		12. DATE RESULTS NEEDED		13. NUMBER OF COPIES	

14. REQUEST TITLE	15. REPORT SEQUENCE (MIS)		16. SCOPE OF SEARCH	
	a.		MOST RECENT 2/10 YEAR FILE	
	b.		COMPL./TERM WUIS	
17. EXISTING DTIC FORMAT (MIS ONLY)	c.		SPECIFIC YEAR RANGE	
18. INFORMATION REQUIRED (IN NARRATIVE FORMAT)	d.		(　　TO　　)	

19. INDICATE DESIRED DATA ELEMENTS AND PHYSICAL ARRANGEMENTS (Not needed if Item 17 is completed) (MIS ONLY)

Is this search for establishment of a new work unit? _____ YES _____ NO

If YES,

Proposed Work Unit Number: _____　Work Unit Monitor: _____

Proposed Work Unit Title: _____

Lab/Office: _____　Contract Number (if applicable): _____

FOR DTIC USE ONLY		REVIEWED BY		LIAISON		REMARKS
1.	5.	ANALYST	CLERK	ASSIGNED BY	ASSIGNED TO	
2.	6.					
3.	7.	OUT CLASSIFICATION U | C | S		PHONE REQUEST TAKEN BY	DATE MAILED OUT	
4.	8.					

DTIC FORM 64 SEP 85

PREVIOUS EDITIONS OF DTIC FORMS 4 AND 64 ARE OBSOLETE.

Figure 5.　DTIC FORM 64.　Literature Search

After the project officer has completed the form and after the search has been recorded, a copy of this form will be sent to the STINFO Program Manager for file.

3. Other Services

Our Technical Information Center can further assist you by conducting manaul library searches from its own stock of books, technical reports, standards and specifications, patents, journals, audiovisual and software materials. If a publication or book is not available, it may be obtainable on an interlibrary loan.

Our Technical Information Center can also retrieve and deliver engineering documents from national and international networks of academic research libraries, DOD Information Analysis Centers, and experimental research stations.

4. Products

Products that can be delivered by our Technical Library include: customized bibliographies, current awareness bibliographies, conference papers, business intelligence, theses, journal articles, patents, technical reports, standards and specifications, publicly available engineering documents, and textbooks covering a multiplicity of science and engineering topics, as well as total quality management.

5. Storage of Documents

TIC can provide shelf storage for your technical documents that you wish to make available to others. TIC will also provide limited storage to classified documents. Our storage includes hard copies and microfiche.

6. Library Information (TICTALK)

In an effort to keep you informed of our services, TIC publishes TICTALK over the WANGMAIL SYSTEM. Remember, TIC can only respond to known needs; let our librarians know what services you would like to see provided.

SECTION IV
AIR FORCE TECHNICAL PUBLICATIONS PROGRAM (AFI 61-202)

A. TECHNICAL PUBLICATIONS

Research and development is of no value to anyone else if it is not properly documented, sometimes for a multiple audience, and often for a worldwide scientific and engineering readership. Just as your WUIS Summary serves as a progress report, your technical report tells your reader what you did, why and how you did it, what you found, and what your results mean. This report serves as a vehicle for transition and transfer of your technology and sometimes provides a viable foundation for further research. In other cases, the documentation of lessons learned can prevent costly and time-consuming "reinvention of the wheel." Since good technical documentation requires a great deal of effort it should be done right and should produce a reader-friendly document. Your technical editing function can help with this. Let's examine the Air Force technical documentation program and see how we can make it work for you.

Technical publications are defined as all significant scientific or technological observations, findings, recommendations and results derived from Air Force RDT&E engineering, production, logistics, and studies and analysis efforts, as well as contracted advisory and assistance services. This definition excludes only:

1. Management reports that contain nontechnical information about a project and the administrative details necessary for managing the project.
2. Documents that may be technical but that are used only by the originating activity, such as working reports.
3. Air Force or DOD publications.

B. PURPOSE AND POLICY OF TECHNICAL PUBLICATIONS PROGRAM

The Air Force purpose and policy for its technical publications program, as defined in AFI 61-202 are to:

1. Ensure maximum distribution of scientific and technical information to those who have a legitimate need for this information.
2. Record as technical publications and contribute to national scientific or technical information databases.
3. Publish and distribute technical publications within 180 days after the work is completed or terminated and according to established standards for document format, distribution, security classification and reproducibility. Ideally, we should do it within 120 days.
4. Make every effort to disseminate this information to the widest possible audience. This means that the document must either be cleared for public release or its audience limitation must be clearly stated.
5. Assure that documents not releasable to the general public have the appropriate distribution markings and instructions for controlled dissemination of these documents.

C. TYPES OF TECHNICAL PUBLICATIONS

AFI 61-202 lists and describes the types of technical publications that must be submitted to Defense Technical Information Center:

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1. Technical Report

A technical report is defined as "any preliminary or final document written for the permanent record to document significant scientific results obtained from or recommendations made on Department of Defense sponsored or co-sponsored scientific and technical activities." This definition applies primarily to research and development, test and evaluation. A technical report is a document in which the organization offers a formal presentation of results, when either the effort or a major phase of the effort is completed. A technical report can be either a final or interim report, depending on the circumstances.

According to ANSI Standard Z39.18-1987, a technical report has a unique, issue-supplied support number and may have a contract or grant number and accession or acquisition number. A technical report also exhibits some or all of the following characteristics:

a. Its readership is usually limited, its distribution may be limited or restricted, and its contents may include classified or proprietary information.

b. It may be written for an individual or organization as a contract document to recount the total research story, including full discussions of unsuccessful approaches.

c. It may include statistical data, catalogs, directions, design criteria, conference papers and proceedings, literature reviews, or bibliographies.

d. Its publication and distribution requirements may involve a variety of printing and binding methods.

e. It is not usually published or made available through the commercial printing trade.

2. Conference or Symposium Proceedings: A compilation of presentations, lectures, or papers delivered at a meeting, symposium, conference, convention, etc., will probably not contain conclusions or recommendations; however for simplicity of numbering this can be published as a technical report.

3. Special Report: A document directed to a specific user.

4. Technical Paper: An alternate form of technical report where the format of the presentation is determined by the publisher or the intended use of the document instead of the ANSI Standard referred to by AFI 61-202. In most instances, contractor format is acceptable. Journal articles and individual symposium presentations should be published as technical papers.

5. Technical Notes and Technical Memorandums: Publications that record interim or partial results of an effort to document Air Force needs, operational requirements, and science and technology objectives. These reports are highly useful as products of very complex efforts or for efforts that terminate without a final report. They should never be used as substitutes for technical reports.

The differences in types of publications authorized by AFI 61-202 provide you with the flexibility needed for publication; remember, each of these must have a distinct and different numbering system and make data accounting even more complex.

D. LOCAL IMPLEMENTATION RESPONSIBILITIES

AFR 61-202 makes each STINFO program manager responsible for the technical publications program. Specific responsibilities are as follows:

1. Review WUIS Summaries to assure that at least one technical report is required for each technical effort.

2. Review Purchase Request and other contract packages to assure that technical report requirements are incorporated.

3. Assure timely preparation, publication and distribution of technical documents. This translates into 180 days or less from the end of the technical effort.

4. Establish procedures to assure that results of technical efforts are documented, regardless of whether or not the results are conclusive.

5. Specify the data that contractors must deliver. Normally, at least one publication per technical effort is required.

6. Establish a tracking system that will record the progress of anticipated technical publications from before the due date of the edited draft through printing.

7. Perform preliminary review to determine the public release or restriction of unclassified publications. Determine whether special notices are needed.

8. Assign numbers to technical publications. This starts the publication clock ticking.

9. Perform final qualitative review to determine readability, accuracy, aesthetics, and whether the document has fulfilled the objective of the research.

10. Assure that DD Form 250, Material Inspection and Receiving Report is not signed until the camera-ready copy is accepted.

Although these are STINFO Program Manager responsibilities, it is up to you to produce the first draft and the camera-ready copy of the technical report. The STINFO program Manager and the editing staff will help you with every phase of this operation.

TECHNICAL DOCUMENTATION NOT COVERED IN AFI 61-202

Some technical materials important to marketing the technologies produced by this directorate are not included in AFI 61-202, nor are they submitted to Defense Technical Information Center. Nonetheless, the need for quality words and pictures is just as great.

A. ENVIRONMENTAL QUALITY TECHNOLOGY SYNOPSES (EQTECHS)

Environmental Quality Technology Synopses are our replacement for the Air Force Civil Engineering Support Agency's TECHDATA, which was created to keep Major Air Commands, other laboratories, and other potential users apprised of fielded or developing technologies, processes or methods that may be of value to their missions or make their jobs easier. The purpose is the same but the new title will reflect our focus on environmental quality technologies and provide better orientation to our customers.

An EQTECHS is a one- or two-page typeset illustrated summary of what the technology is, what it does, why it was needed, what the benefits are, how it can be applied, and who can be contacted for more information. It can originate at the request of the Director or STINFO Program Manager when your technical report is submitted, or when you decide that a synopsis is needed. An example is included as Figure 6.

If the Executive Summary for your technical report provides sufficient details, it can be used by the STINFO Program Manager to produce the EQTECHS. At any rate, all you have to do is supply the STINFO Program Manager with the draft information or Executive Summary. Technical Editing will then produce the EQTECHS for your review, publish it and distribute.

B. TECHNOLOGY PAYOFFS, SUCCESS STORIES, AND OTHER DOCUMENTS

There is an increasing demand from higher headquarters for high-quality words and pictures that can be used to present our technologies to Major Air Commands, Air Staff, Congress or others interested in our achievements and capabilities. These requests may take the form of Technology Payoffs, Success Stories, Quad Charts or narrative inputs. Regardless of format required, the tasking will require well-written text and color photos. The writing is not a problem, compared to the scarcity of really good pictures of our technical efforts. We must assure that each of our projects provides color prints, color slides, overhead transparencies and, above all, internegatives.

C. BROCHURES

Brochures can be effectively used for multiple marketing and information to:

1. Provide visitors with information about our technologies and our people. An effective brochure uses typeset words and pictures to:
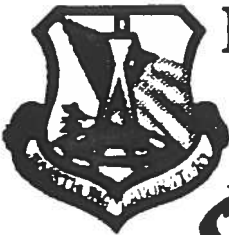
ENVIRONMENTAL QUALITY TECHNOLOGY

EQTECHS

Armstrong Laboratory Environics Directorate · 139 Barnes Drive Suite 2
Tyndall Air Force Base, Florida · DSN 523-6259 · Comm: (904)283-6259

Synopsis

TITLE

NUMBER (BY DIVISION)   **DATE**

ONE-TWO PAGE, TWO-COLUMN DESCRIPTION OF TECHNOLOGY

DESCRIPTION

BACKGROUND

APPLICATION

AVAILABILITY

TRANSFERABILITY OR TRANSITION OF TECHNOLOGY

ILLUSTRATION OF TECHNOLOGY (WHEREVER IT BEST FITS PAGE LAYOUT)

DOCUMENTATION

TECHNICAL CONTACT

USER CONTACT

Figure 6. Example of Environmental Quality Technology Synopses

a. Augment presentations by our laboratory personnel.
b. Recruit scientists and engineers to work for our laboratory.
c. Answer queries about who we are and what we do.
d. Provide technology transfer agents with information.

D. MILITARY ENGINEER MAGAZINE

The Military Engineer, the magazine of the Society of American Military Engineers (SAME) publishes articles by directorate scientists and engineers. The magazine publishes an annual Technology Transfer Whitebook Edition and solicits articles from our people. This gives you another avenue to publicize your technologies and restates the need for quality illustrative material. Your STINFO Program Manager will normally be the focal point for this effort.

E. VIDEOS

1. Public Affairs Presentations

Both the Air Force Materiel Command and Human Systems Center Public Affairs Offices have expressed interest in helping us to publicize our best technologies, especially through video footage. If you have something worthy of filming, either by these agencies or even by the national news media (not 60 minutes) please try to provide about 6 or 8 weeks notice. so that all arrangements can be made in advance.

2. Laboratory Video

A short videotape showing who we are and what we do would do much to enhance the image of our Directorate. With this in mind, we should strive to obtain quality videotapes of our technologies so that we can maintain a dynamic approach to presenting our activities and our products. This requires some careful preplanning but will pay off in having more S & T dollars devoted to our activities.

Again your STINFO Program Manager is the focal point for these efforts.

SECTION VI

JOURNAL ARTICLES AND PHOTOGRAPHIC MATERIALS

A. WRITING JOURNAL ARTICLES

The technical editor will assist you in preparation of articles submitted for publication in technical or scientific journals or to be published as part of symposium proceedings. The following general principles should be remembered when considering such articles.

1. Submit the draft for editing sufficently in advance of publication. It would also be helpful to submit a copy of the journal to which the article is being submitted so that editing can be done according to the standards of the publication involved.

2. All articles submitted for publication, as well as all papers prepared for presentation, must be approved for public release. This means that Public Affairs must have time to review the article. All articles will be processed through the STINFO Program manager, who will then request PA review

3. A handy reference work for preparation of articles is Robert A. Day's <u>How to Write and Publish a Scientific Paper</u>. Some general rules are excerpted from this excellent book. They are:

    a. "Don't start vast projects with half-vast ideas." Be sure that your entire article is well thought-out and that at least a tentative outline is written before you begin.

    b. Remember that a scientific or technical paper must contain sufficient information to enable peers to (1) assess observations, (2) repeat experiments and evaluate intellectual processes. It must also be permanent, available to the scientific community, and obtainable from an information retrieval service.

    c. The paper must show a definite pattern of organization to assure good organization. Four questions must be answered.

        (1) What was the problem? Answered by the <u>Introduction</u>.
        (2) How did you study the problem? Answered by <u>Materials and Methods</u>.
        (3) What did you find? Answered by <u>Results</u>.
        (4) What do these findings mean? Answered by <u>Discussion</u>.

Remember that, with proper organization, your paper will write itself.

4. The language used should be appropriate to the audience. Simple, concise language interspersed with technical information will make a complex topic easier to read or, put another way, "The Ph.D. in science can make journal editors quite happy with plain, unadorned eighth-grade composition."

5. Use a short title which previews the topic in one or two lines but carries no excess baggage. Do not let syntax of the title confuse meaning (example: Preliminary and Canine Evaluation of a New Antitumor Agent). Do not clutter title with abbreviations, chemical formulas, proprietary names, and jargon that would make indexing difficult.

6. Obey all grammatical rules but write for the reader and avoid use of excess words and phrases that clutter the text. Some examples are: " it should be noted that, relating to the subject matter of, on the order of, in the vicinity, of in close proximity to, in my opinion it is not a justifiable assumption that," etc. George Eliot said "Blessed is the man who, having nothing to say, abstains from giving us wordy evidence of this fact."

7. Use only standard, recognizable abbreviations and keep them to a minimum. Spell out all nonstandard abbreviations and acronyms the first time used. Only abbreviate units of measurement when used with a numeral.

8. Be sure that all charts, graphs, tables, and photographs are necessary, in good taste, reproducible, and in keeping with publication instructions of the journal in question.

9. Typing of final manuscript should be according to instructions provided by the journal editor.

B. PREPUBLICATION REQUIREMENTS FOR JOURNAL ARTICLES

1. Certification Review

Before an article is submitted for publication in a professional journal, the author's supervisor must identify the material as either official or unofficial. The technical management of the author's activity will review and validate the technical content of the article, approve the article for publication, and verify that:

a. The article's dissemination will enhance Air Force-related R & D programs.

b. Defense security requirements are satisfied.

c. The publisher is informed that official material or material published concerning R & D using Air Force or government funds, materials, equipment, facilities or time is "not subject to copyright law." This requirement makes a copyright on articles published by us or our contractors the exception, rather than the rule.

2. Caveats and Acknowledgements

All manuscripts funded or supported by the Air Force that are to be submitted by Air Force employees, military personnel, contractors, or grantees for publication in scientific journals must carry one of the following footnotes:

a. In-House. "The research reported in this paper was conducted by personnel of the Armstrong Laboratory Environics Directorate (AFMC) Tyndall AFB, Florida."

b. Contract. "The research reported in this paper was sponsored by the Armstrong Laboratory Environics Directorate (AFMC) Tyndall AFB, Florida under contract (contract number) with (company).

c. Additional. "Opinions, conclusions, and recommendations contained in this article are those of the author and are not necessarily endorsed by the U.S. Air Force."

For further information on journal articles, contact your STINFO Program Manager.

C. PUBLICATION OF JOURNAL ARTICLES AND SYMPOSIUM PROCEDURES AS TECHNICAL PAPERS

After the article has been published or the presentation is finalized, the local STINFO Program manager will publish the article as a technical paper and submit it to DTIC.

1. Project manager or author will provide a reproducible copy, reprint, or final manuscript of the printed article or presentation, including illustrative material to Technical Editing (AL/EQPP).
2. Technical Editing will prepare the front matter, including the SF 298 and publish, without editing, as a technical paper .
3. Technical editing will follow your instructions on initial distribution, in addition to routine distribution, which includes DTIC and our Technical Information center.

In the rare event that a copyright is relinquished to a journal, the STINFO Program Manager will forward a completed SF 298 to DTIC, referring interested parties to the journal by citing the issue and page numbers.

D. THE NEED FOR HIGH-QUALITY ILLUSTRATIONS

All the items covered in this section point to the need for illustrating your technical effort or project. Some ways to do this are much easier than the mad scramble for photographs when the short-notice need is received. Consider the following:

1. Specify in the contract documents that you be provided with sufficient color photographs, 35 mm transparencies, overhead transparencies and most important, negatives to tell the story of your project. Data item Description DI-A-3924A, Presentation Materials, can be tailored to meet your needs with a Contract Data Requirements List (Figure 3)

2. When you go out to visit your project, either take a camera or contact a photographer (especially if it is on an Air Force base) and take pictures.

3. As part of our matrix supprt program, The STINFO Program manager has established a photo file. Provide technical editing with a set of photographs or slides for filing in his office. Better yet, provide a set of negatives for this file.

4. If graphics or concept drawings are involved, have them done professionally and put them on file.

Remember, funding for your project may depend on the quality of your illustrative material. Your technical editing function can supply the words, but you need to provide high-quality pictures so that the package will be both professionally correct and aesthetically appealing.

SECTION V

PROCESSING THE TECHNICAL REPORT FOR PUBLICATION

A. CRITERIA FOR A GOOD TECHNICAL REPORT

AFR 61-202 states that technical publications shall be prepared and structured according to an acceptable professional format and that American National Standards Institute (ANSI) Z39.18, 198X) may be used for this purpose. Some guidelines in the ANSI standard are excellent; others have carried flexibility to the point of ambiguity. This is why we have amended this standard by publishing AL/EQ Handbook 61-202B, Author's Guide to the Publication of Technical Reports, a companion volume to this handbook.

In general, here are some criteria for a good technical report:

1. Organization
2. Accuracy
3. Correctness
4. Simplicity
5. Conciseness
6. Aesthetics
7. Effective visuals
8. Coherence
9. Clarity

Material within the document should be arranged in the following manner:

1. Front Matter
   a. Notice Page (signed). Inside front cover
   b. SF 298 (pages i and ii)
   c. Preface (page iii)
   d. Executive Summary (page v)
   e. Table of Contents
   f. Lists of Illustrations
   g. Glossary (if needed)

2. Text (page 1)

    I.   INTRODUCTION
         A. OBJECTIVE
         B. BACKGROUND
         C. SCOPE
   II.   METHODOLOGY
  III.   TEST DESCRIPTION
   IV.   RESULTS
    V.   CONCLUSIONS
   VI.   RECOMMENDATIONS (IF ANY)
         REFERENCES
         APPENDICES

Sections II-IV comprise the Body of the report and may be titled according to material presented. Examples are shown in AL/EQ Handbook 61-202B.

Some general criteria may also be applied to the typography of a technical report:

1. Dot matrix type is not acceptable for camera-ready copy because it does not reproduce well.
2. Standard typeface with quality printer product must be used.
3. Professional or typed lettering or symbols must be used for equations and figures.
4. Reduced material should be left large enough for reproducibility.
5. Camera-ready copy should either be typed or typeset, single- or one-and one-half-spaced.
6. High-quality paper should be used for camera-ready copy.
7. Page margins must be 1 inch at top, bottom, and sides.

The following general guidelines apply to illustrations:

1. All illustrations must be professionally drawn.
2. Photographs must be made into halftones.
3. Illustrations must be reproducible on initial copy and through DTIC.
4. Illustrations must fit within page margins. Foldouts must be kept to a minimum.
5. Illustrations must be sized and integrated with text.
6. Figures and tables must be placed as close as possible to first text reference.

To provide better reader orientation, a good technical report must contain a concise and comprehensive Executive Summary, as shown in Appendix C.

Good organization can make even the most complex report much easier to read. You start by organizing your introduction into A. OBJECTIVE, B. BACKGROUND, and C. SCOPE. You then choose the simplest outline possible, develop topic sentences, and proceed logically through the report, using simple and straightforward language and moving methodically through RESULTS to CONCLUSIONS and RECOMMENDATIONS.

B. EXCEPTIONS TO TECHNICAL REPORT CRITERIA

Criteria for organization, format, and style are set forth with examples in Appendix C. Exceptions will be granted as follows:

1. Small Business Innovative Research (SBIR) Reports

   a. Phase I

        Because of the relatively low amount of money committed to the Phase 1 SBIR effort, contractor format will be accepted and the report can be published with minimum editing. The STINFO Program Manager will perform a qualitative review to determine if the document meets DTIC criteria for reproduction.

        SBIR reports must be protected as proprietary for 4 years unless the contractor gives written permission for public release. This means that Distribution Limitation Statement B must be used (see Appendix C) and that all proprietary pages must be stamped. The SF 298 and Summary should not contain proprietary information, as these may be used by the Air Force to publicize success of the program.

b. Phase II and Beyond

   SBIR technical reports covering Phase II and beyond will meet all
the criteria for AL/EQ technical reports. These reports will be protected as
proprietary for 4 years, using Distribution Statement B, unless the contractor
gives written permission to release the document.

   Again, all pages should be clearly stamped as proprietary except
for the SF 298 and Executive Summary.

2. Theses

   Theses submitted by Laboratory or related personnel may be of interest
to both DOD researchers and the Air Force Worldwide scientific and engineering
community. Such publication is encouraged; however, these reports do require
an AL/EQ sponsor or Project Manager before they can be published as technical
reports.

   Theses will be accepted for publication as they were published by the
college or university requiring the dissertation, as long as the material
meets DTIC reproducibility standards. We will add the required front matter
and proofread for typographical or grammatical errors. Otherwise, editing
will be minimal. A Preface for a thesis technical report is shown in Figure
C-8.

3. Reports Covering Air Force Office of Scientific Research (AFOSR)-
Sponsored Technical Reports

   Technical Reports from Summer Faculty, Summer Extension, Graduate
Assistant and High School Apprenticeship program selectees are also of value
to others. Scientists, engineers, and others who write technical reports
under one of these AFOSR-Sponsored programs are provided an opportunity to
have their technical reports published thorugh AFOSR.

   As the mentor of one or more of these participants, your role is to
guide the research and perform a technical review of the report. When you
approve the report, forward it to the Directorate Chief Scientist and to the
Program Coordinator. Upon their approval, the report will be forwarded to the
AFOSR Contractor for publication in a bound volume.

   After review of the final report, the Program Coordinator will prepare
the front matter and process each separate report for publication as an AL/EQ
technical report. This will ensure that each of these reports is published as
a separate directorate effort. A Preface for a Summer Faculty Report is shown
in Figure C-7.

4. Other

   When it is clearly more expedient and cost-effective, a contractor's
format may be accepted for a technical report, but only with the advance
approval of the STINFO Program Manager/Technical Editor. If you feel this is
necessary, consult your STINFO Program Manager. Otherwise, the format
required by this Directorate will be used.

C. AIR FORCE REQUIREMENTS

The overall objective is to assure that a technical report is published within 180 days after technical effort has ended; however, the metric in AFPD 61-2 is based on 120 days and we should strive for this. Timely publication can be a reality only if you establish a timetable for getting your report out. A suggested schedule of events is as follows.

1. Draft technical report - 30 days after technical effort ends.
2. Report is edited - 30 days from time draft is received.
3. Corrections made and final produced - 30 days after corrections to draft have been made.
4. Processing of report for publication - 30 days.
5. This leaves 60 days for publishing and distributing.

These goals are achievable only if project managers and technical editing staff function as members of a matrix team, helping one another in every way possible. Here are some guidelines for processing a technical report from draft to distribution.

D. DRAFT REPORT

Two copies of the draft report should be received from the author (contractor) 30 days after the end of the technical effort. Timely processing of the draft is a cooperative effort between the project manager, STINFO Program Manager and Technical Editing. The effort is divided as follows:

1. Project Manager (within 30 days of receiving draft)

    a. Reviews one copy of text for technical accuracy and content, while sending the other copy to the STINFO Program Manager for editorial review. This copy should include Job Order Number.

    b. Prepares Peer Review briefing of technical report. For Guidance, see Appendix.C

    c. Briefs technical report to Director, Chief Scientist, Division Chief and peers.

    d. Receives editorial comments, combines them with technical review comments and forwards these to author for corrections.

2. STINFO Program Manager (within 5 days of receipt)

    a. Reviews technical report to assure that WUIS Summary Requirements are fulfilled and that the draft is acceptable for editing.

    b. Determines level of edit and assigns draft to editing.

3. Technical Editing (within 14 days)

    a. Edits report, prepares editorial summary, and returns edited copy to project officer.

    b. Schedules peer review briefing and notifies project officer of date and time. Must work around TDY schedules and contractor/principal investigator availability.

    c. Assigns AL/EQ number to technical report and enters into tracking system.

E. CAMERA-READY COPY

The author of the technical report should be required to submit a camera-ready copy, incorporating all corrections, within 30 days after receiving the corrected draft. Again, the project officer, STINFO Program Manager and technical editing must cooperate to assure timely publication. The roles of the players are listed below:

    1. Project Manager (within 30 days after receiving camera-ready copy)

        a. Prepares camera-ready copy for publication, signs it and obtains review and signature from division chief.
        b. Prepares distribution list, including addresses and forwards technical report to STINFO Program Manager for review.
        c. Pays contractor after acceptance of camera-ready copy.
        d. Closes out Work Unit Summary.

    2. STINFO Program Manager, within 5 days of receipt, performs qualitative review, and

        a. Returns to project officer for indicated corrections OR
        b. Forwards to technical editing for publication

    3. Technical Editing (within 30 days of receipt)

        a. Performs final proofreading.
        b. Makes corrections.
        c. Requests Public Affairs Review.
        d. Forwards for Director's signature.
        e. Sends to printer.
        f. Distributes printed copies.
        g. Returns camera-ready copy to project officer.

F. REASONS FOR LIMITING DISTRIBUTION OF TECHNICAL PUBLICATIONS

Although USAF and DOD wish to share as much technical information as possible, not all technical documents will be releasable to the general public. Even unclassified documents may be restricted for a variety of reasons such as:

    1. Militarily critical technology
    2. Software documentation
    3. Test and evaluation of contractor performance
    4. Premature dissemination
    5. Operational and administrative use
    6. Proprietary or patent rights
    7. Foreign government information
    8. Protected by specific authority
    9. Other reasons determined by issuing agency

Distribution can also be limited to specific audiences:

1. Government agencies only
2. DOD components only
3. Government agencies and their contractors
4. DOD components and their contractors
5. Government agencies, private individuals, and enterprises eligible to obtain export-controlled documents

All technical documents will be marked with the appropriate distribution statements from the time they are generated until the need to protect the document no longer exists.

For marking purposes, technical documents are defined as technical publications and documents, working papers, memoranda, and preliminary reports not already in the public domain. This includes unclassified technical data in possession or under the control of an Air Force organization that has military or space application and that cannot be exported lawfully without approval, authorization or license.

The definition is extended to include drawings, standards, specifications, blueprints, technical manuals, drawings, plans, instructions, computer software, photographs, technical orders, or other technical information that can be used or adapted for use to design, engineer, produce, manufacture, operate, repair, overhaul or reproduce any military or space equipment ; in short, most of what we do that goes beyond basic research comes under this umbrella.

Your STINFO Program Manager will assist you in determining whether your document should be limited and in choosing the appropriate limitation statement or in obtaining a Public Affairs release for unlimited documents. Remember, you can always change your initial limitation statement to unlimited, but it is often futile to limit distribution of a document after everyone in the world has seen it. If you have any doubts, limit the document at the beginning.

Appendix B contains examples of each of the distribution statements and provides basic guidance on protecting unclassified information. Basic information on a distribution statement should include.

1. Who can obtain the document?
2. Why is it limited?
3. When was the limitation applied?
4. Office symbol and address of controlling agency.

Defense Technical Information Center will not release our documents unless we tell them to and they will forward all requests for a limited document to the controlling agency.

G. TRACKING SYSTEMS

A computerized tracking system is essential for managing a technical publication from first draft to distribution of final report. A successful tracking system must meet the following minimum criteria:

1. The system must track technical report from completion of technical effort to distribution.

2. System must have enough data bits to cover each phase of the TR. The 32-item system used by Technical Editing is an example.

3. The system must be accessible to all levels of management so that accountability can be assured.

4. System must lend itself to monthly reporting of late technical reports.

5. System must be able to transfer data over to a list of published reports.

6. Reports must be tracked by title, date, branch, project officer, JON, contractor, etc.

7. The following data items are essential for an effective tracking system.

    a. Technical report number, Job Order Number, title, name of project manager, contractor code (entered by editorial assistant) and title

    b. Date submitted for initial edit

    c. Date returned to Project Manager

    d. Date of return of initial edit.

    e. Date camera-ready received.

    f. Date review of camera-ready completed.

    g. Date of STINFO review.

    h. Date of PA review.

    i. Date signed.

    j. Date sent to printer.

    k. Date received from printer.

    l. Comments: Description of special problems.

> NOTE: Although many other items can be added to a computerized database the criteria represented above represent the absolute minimum for tracking the progress of a technical report and documenting foot-dragging by the time intervals used for each criterion. This system will be converted to AL STINFOTRACK as soon as we are connected to the Armstrong Laboratory computer network

Your technical report may be either the best product of your research or the basic document that is used for technology transition of your effort. In addition, it may attract multiple readers within the scientific and engineering community, some of whom may be laypersons outside their areas of expertise. Your report must, therefore, meet the highest possible standards of accuracy, completeness, conciseness, readability, and timeliness. It cannot be overemphasized that your professional ability is reflected in your technical reports.

SECTION VII

SECURITY AND POLICY REVIEW (PUBLIC AFFAIRS)

A. REQUIREMENT

Air Force Policy Directive, 35-2, <u>Security and Policy Review</u>, requires that all documents releasable to the general public be first reviewed by a designated Air Force Public Affairs Officer. This directive applies to all military, civilian, and contractor personnel generating technical documentation.

1. Air Force Policy Directive 35-2. as implemented by Air Force Instruction 35-205, <u>Air Force Security and Policy Review Program</u>, applies to all Directorate personnel, including those assigned to our operating locations and our contractor personnel.

2. Basically, The directive says that any oral and/or written information, including any audiovisual products, that is to be briefed or presented to any member of the public must undergo security and policy review. For the purpose of this requirement, the word "public" means that if one or more non-DOD people are going to receive the information, either orally or in the form of a document, then the material to be released must be reviewed for public release.

3. Technical Documentation includes technical reports, journal articles, presentations, audiovisual materials, posters, displays, and other published presentation or briefing materials.

B. POLICY

Directorate policy is to assure that all technical documentation released to the general public receives the required security and policy review before its release.

C. PROCEDURES

All documents must be processed through the Scientific and Technical Information Program Manager before being submitted to PA for the Security and Policy Review. The following procedures apply:

1. Project Managers will:
    a. Assure that the proposed presentation has been approved by at least their division chief and director.
    b. Assure that presentation meets standards for aesthetics and taste required by the Air Force and the journal or person requesting the presentation.
    c. Provide STINFO Program Manager with a copy of the document, along with the name of the intended publication or title, date and place the document will be presented.

2. The STINFO Program Manager will:
    a. Review the document for compliance with DOD release criteria outlined in AFR 82-3 and coordinate with the Foreign Disclosure Policy Officer, if necessary.

17 Mar 1993

Larry Testerman (EQPP)

Request for Security and Policy Review (IAW AFR 190-1)

PA

1. Request the following document be reviewed for public release in accordance with Air Force Security and Policy review procedures as outlined in AFR 190-1: Briefing – Supercritical Water Oxidation of Chemical Agents, Solid Propellant and Other Hazardous Wastes.

2. If approved for release, the specific time, place and audience will be: International Workshop; 25-26 March 1993; Kernforschungszentrum, Karlsruhe Gmbh.

3. To the best of my knowledge, the release of this document is consistent with current Air Force policy. I certify this document has been reviewed by competent technical authority, and that it is accurate, unclassified, clear of all proprietary and copyright restrictions, and is suitable for public release.

LARRY L. TESTERMAN
Scientific and Technical
Information Program Manager

1st Ind, HQ AFCESA/PA

To:

The document cited above is:

    ( ) a. Approved for release to the public.
    ( ) b. Approved for release to the public, subject to the following conditions:

    ( ) Not approved for release at this level. Please provide six copies for review by SAF/PAS.
    ( ) Not approved for release to the Public.

SHARON RAIMO, TSgt, USAF
Public Affairs Officer

Figure 7.   Security and Policy Review Letter

b. If release is recommended, submit the document with a written request for approval to PA (See Figure 6).

c. Retain one copy of approved request for file; return original to Project Manager.

3. PA will:

a. Endorse letter recommending approval,

b. Approve only the abstract and ask that full text of paper be submitted before presentation, or

c. If local approval cannot be granted, ask for additional copies for submission to Secretary of Air Force Public Affairs.

4. If the document needs to be cleared by SAF/PA, the originator must provide AFCESA/PA 10 copies of the document and all visual aids. The minimum turnaround time for documents going to SAF/PA for approval is 15 working days. If SAF/PA determines that approval is needed from OASD/PA, an additional 30 working days are required.

NOTE: At this time, AFCESA/PA is providing Security and Policy Review under the Memorandum of Understanding. We expect this procedure to continue.

D. YOUR RESPONSIBILITIES

If you are unsure who your audience will be, play it safe and submit your material early. Don't wait until it's too late to get OASD/PA approval for your presentations. A way to beat the system is to prepare several "canned" presentations and get them approved in advance.

In addition, if you intend to visit a foreign country and present technical information, your document review needs to be coordinated with the Foreign Disclosure Policy Officer, as well as with the STINFO Program Manager and PA.

The bottom line is that Security and Policy Review at each prescribed level is a requirement. Plan ahead and allow yourself plenty of time for the process to take place.

SECTION VII

FOREIGN DISCLOSURE POLICY

As a project manager you must share your information with the worldwide scientific and engineering community. At the same time you will be concerned with withholding some information, both in the interest of national security and assuring that a foreign competitor does not gain a technology advantage or obtain otherwise restricted information. Foreign Disclosure applies to documents, visits of foreign persons and to the contracting process. Fortunately, this Directorate has a Foreign Disclosure Policy Officer (FDPO). This section will be devoted to acquainting you with the basic foreign disclosure policy and requirements to the extent that you will be able to recognize potential problem areas in managing your project.

A. ROLE OF FOREIGN DISCLOSURE POLICY

According to National Disclosure Policy, information is a national security asset which must be preserved and protected. Military information is under the control of the DOD and its departments and requires protection in the interests of national security. Sharing information with foreign nationals is called foreign disclosure and refers to the authorized transfer of information to a foreign national, a foreign government, or to international organizations such as NATO.

The present role of foreign disclosure policy is to:

1. Enhance US defense strategy to complement vital US program designed to support allies and friends.
2. Preserve critical technology and operational leads.
3. Restrain growth in military capability of potential adversaries.
4. Participate in an interrelated effort aimed at enhancing US security.
5. Increase emphasis on close military allies and friends.
6. Increase foreign demand for technology transfer as condition for cooperation.
7. Increase impetus for foreign military sales commercial export of military equipment/support services.
8. Initiate more personnel/data exchange agreements.
9. Increase the number of cooperative acquisition/development programs.

Budget, changing world politics, and industrial base issues will be driving factors. The impact of changing policy on disclosure is expected to present even greater challenges as new issues arise and as old issues become more complex. Therefore, contributions at all levels will be even more vital.

B. GENERAL GUIDELINES

National disclosure policy is that normally classified and restricted information is provided only to officials of the US government and to US defense contractors who have the proper security clearance and a valid need for the information to do their jobs.

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The same information may be shared with a foreign government or international organization only in certain situations. Five criteria must be met before foreign disclosure will be approved. These are:

1. Disclosure must be consistent with US foreign policy to the recipient nation or organization.
2. The disclosure must not seriously jeopardize the military security of the US.
3. The foreign recipient's must be able to give the information substantially the same degree of security protection that we can give it.
4. The benefits to the US must be at least equivalent to the value of the information disclosed (Quid Pro Quo).
5. The information to be provided must be limited only to that which is necessary to accomplish the purpose of the disclosure.

Classified information has been broken into the following categories:

Category 1: Organization, Training, and Employment of Military Forces.
Category 2: Military materials and munitions.
Category 3: Applied Research and Development Information and Materiel.
Category 4: Production Information.
Category 5. Combined Military Operations, Planning and Readiness.
Category 6: US Order of Battle.
Category 7: North American Defense.
Category 8: Military Intelligence.

Most of these categories are self-explanatory and are clearly defined in AFR 200-9. Sometimes, however, several documents taken together can reveal information that should be restricted. This is where the need for limiting of unclassified documents about your research and development enters the picture. Remember, that limited distribution documents are also controlled when a foreign national asks for them.

C. IMPLEMENTATION

The Air Force agency charged with foreign disclosure responsibilities is Secretary of Air Force Disclosure Policy Division (SAF/IADP). This agency develops and promulgates foreign disclosure policy and manages the Air Force Foreign Disclosure System. In addition to identifying critically sensitive information, this agency can delegate release authority to the MAJCOM Foreign Disclosure Policy Officer. Its Implementation Branch is SAF/IADD: This branch:

1. Implements USAF disclosure policy.
2. Provides direct liaison with foreign attaches.
3. Approves foreign government visits and document requests.
4. Munitions/export licensing authority.
5. Acts as Focal point for requests for information.

Your Foreign Disclosure Policy Officer (FDPO) has been appointed by the director. This person has whatever authority that has been delegated by SAF/IADP and the superlab Foreign Disclosure Policy Officer. Within our directorate, this person is your focal point and can help you keep out of trouble by coordinating your needs and problems with others in the foreign disclosure chain.

Disclosure may take place in several ways:

1. <u>Visits</u>: Visits are covered in terms of who goes where or who receives whom and the type of information that may be released. Whether you are visiting a foreign country or hosting a foreign visitor, certain restrictions will apply and each visit must be coordinated with foreign disclosure channels. Notification of visit and basic information must be provided sufficiently in advance of each visit to obtain approval from SAF/IAD. Such visits may include

     a. AF military and civilian personnel.
     b. Visits of foreign representatives to DOD.
     c. Contractor visits to Air Force Installations.
     d. Visits to USAF Installations by foreign nationals, including foreign students attending U. S. universities.
     e. Visits to foreign establishments by both DOD and DOD contractor personnel.
     f. Visits to contractor facilities by foreign nationals.

Remember, visits cannot be permitted to just take place. The visit and the terms of its disclosure must be coordinated at least 6 weeks in advance and in writing, with SAF/IADD. If a foreign visit is not authorized, you are not authorized to divulge any information.

2. <u>Contractors Employing Foreign Nationals</u>: Project officers must be particularly aware that contracts should be written to preclude disclosure of potentially limited or classified information to foreign employees or students working on government contracts. For this reason, a limitation statement is a good idea from the outset. If the information turns out to be releasable we can always lift the restrictions.

3. <u>Attendance at Symposiums or Conferences</u>. Your attendance at symposiums where foreign nationals are present may also involve restrictions on what information may be presented. Limited information is not to be disclosed to foreign audiences. This is why the security and policy review conducted by PA is an essential part of the process. If the meeting is open to the public or to foreign nationals, the review request should be coordinated with the FDPO.

4. <u>Disclosure of Documents</u>: Must be approved by designated disclosure authority for all documents except public release documents. This may be based on your recommendation. The FDPO must approve disclosure of nay information requested by a foreign government, whether or not it has been previously approved for public disclosure.

5. Disclosure Authority can be delegated to MAJCOMS or can be retained by SAF/IADD. In some cases, as with Allied Exchange Programs a Disclosure Delegation Letter (DDL) can be negotiated and approved. This establishes the type and quantity of information that a local laboratory may release.

D. INTERACTIONS

Your FDPO will, in all likelihood, be assigned as an additional duty and will not be a full-time foreign disclosure professional. In many cases, he or

she will not have all the answers, because the answers are just not available at directorate level. What you can expect is that this person knows how to find an answer for you. If, however, the program is to serve you successfully and control disclosure of your R & D, some management is required on your part.

1. You must be aware of disclosure modes as they affect you and your project from start to finish.

2. You must treat all information resulting from your project as if it might need to be at least limited from the outset.

3. You must forward all requests for limited documents to your STINFO Program Manager and your FDPO.

4. You must encourage your foreign counterparts to request technical information through disclosure channels, rather than directly.

5. You must provide sufficient time for visit clearances and/or requests for release of limited information to be reviewed. This especially includes symposium papers and presentations that must be cleared for public release.

6. You must make it a point to know who your FDPO is and work with this person.

This is not all you ever needed to know but were afraid to ask about foreign disclosure. If, however, we have emphasized its importance, some of the problems you may encounter, and who can help you solve them, we have done enough. Hopefully, you will get to know your FDPO. As a further suggestion, since your FDPO, the STINFO Program Manager, and PA work closely together let them be your technical information "gurus" in helping you manage your project.

APPENDIX A

INSTRUCTIONS FOR COMPLETING WUIS SUMMARIES

This appendix provides guidance and a worksheet for project officers submitting WUIS Summaries for Defense Technical Information Center's revised automated system. It consists of the old DD Form 1498 and an excerpt from DOD 3200.12.MI, Chapter 3, Data Field Descriptions

The new system requires more line items than the DD 1498. For ease of use, the data field descriptor numbers are listed under the item numbers on the 1498. You can then refer to the appropriate data field item for instructions on submitting information

You may submit the numbered items on plain paper so that our Office Automation Clerk can enter the information on her computer for transmission by disk to DTIC.

Remember that the WUIS Summaries must be updated:

1. Annually
2. When information changes.
3. At closeout.

Also keep in mind that:

1. The metric in AFPD 61-2 requires a comparision of the number of WUIS Summaries per quarter with the number of new ones during that quarter. The goal is prompt closeout and reduction of the number of old WUIS Summaries.
2. Each WUIS Summary should require at least one technical report and we should be able to track the effort from the WUIS Summary until publication.
3. This reporting system will remain in effect until we are networked to HWUIS.

If you have questions about our Work Unit Information Summary process, please contact the STINFO Program Manager or the data automation clerk.

RESEARCH AND TECHNOLOGY WORK UNIT SUMMARY				1. AGENCY ACCESSION 1.	2. DATE OF SUMMARY 6.	REPORT CONTROL SYMBOL
3. DATE PREV SUM'RY 7.	4. KIND OF SUMMARY 2. & 3.	5. SUMMARY SCTY 12.	6. WORK SECURITY 10.	7. REGRADING	8. DISB'N INSTR'N 18.	9. LEVEL OF SUM A. WORK UNIT

10. NO./CODES	PROGRAM ELEMENT	PROJECT NUMBER	TASK AREA NUMBER	WORK UNIT NUMBER	
a. PRIMARY	30.	30A	30B	30B	
b. CONTRIBUTING					
c. CONTRIBUTING					

11. TITLE (Precede with Security Classification Code)

20.

12. SUBJECT AREAS

25.

13. START DATE 8.	14. ESTIMATED COMPLETION DATE 9.	15. FUNDING ORGANIZATION	16. PERFORMANCE METHOD 4.

17. CONTRACT/GRANT		18. RESOURCES ESTIMATE		
a. DATE EFFECTIVE 34.1 EXPIRATION 34.2		FISCAL YEARS	a. PROFESSIONAL WORKYEARS	b. FUNDS (In thousands)
b. CONTRACT/GRANT NUMBER 34.				
c. TYPE	d. AMOUNT 34.3	30.	30 − C1	30 − C2
e. KIND OF AWARD	f. CUM/TOTAL 34.4			

19. RESPONSIBLE DOD ORGANIZATION 27	20. PERFORMING ORGANIZATION 28
a. NAME 27.2	a. NAME 28.2
b. ADDRESS (include zip code) 27.3	b. ADDRESS 28.3
c. NAME OF RESPONSIBLE INDIVIDUAL 27.4	c. NAME OF PRINCIPAL INVESTIGATOR 28.4
d. TELEPHONE NUMBER (include area code) 27.6 & 27.7	d. TELEPHONE NUMBER (include area code) 28.6 & 28.7

21. GENERAL USE 40, 41, and 42 MILITARY/CIVILIAN APPLICATION:	f. NAME OF ASSOCIATE INVESTIGATOR (if available) 28.8
	g. NAME OF ASSOCIATE INVESTIGATOR (if available) 28.8

22. KEYWORDS (Precede EACH with Security Classification Code)

35.

23. TECHNICAL OBJECTIVE 24. APPROACH 25. PROGRESS (Precede text of each with Security Classification Code)

23 is 36

24 is 37

25 is 38

Chapter 3   Data Field Descriptions

Data Field Descriptions   Chapter 3

B. Detailed Field Descriptions

This section contains a description of each data field within the WUIS database. The fields where examples have been given show the extracted values and include the field number delimited by @ signs. This is the data format that will be used to send data to DTIC. Each field description includes the field codes/values, and edits.

Field	Description

1   Record Accession Number (8 Alphanumeric)

This is a critical control field requiring a valid entry to avoid rejection of the entire record by DTIC. Each contributor is assigned an Accession Number (AN) range by their service focal point. It is composed of a 2 character code (Digraph) and a 6 character serial number. Each WUIS record must have a unique AN. Digraphs must equal one of the following combinations:

Values

Digraph	Organization	Digraph	Organization
DA	Department of the Army	DN	Department of the Navy
DB	Defense Mapping Agency	DP	Coast Guard
DD	Department of Defense	DR	Defense Contract Audit Agency (DCAA)
DE	Defense Advanced Research Projects Agency (DARPA)	DS	Defense Logistics Agency (DLA)
DF	Department of the Air Force	DT	Defense Security Assistance Agency (DSAA)
DG	National Security Agency/Central Security Service (NSA/CSS)	DU	Defense Audit Service (DAS)
DH	Defense Nuclear Agency (DNA)	DV	Defense Investigative Service (DIS)
DJ	Joint Chiefs of Staff	DW	Uniformed Services University of the Health Sciences (USUHS)
DK	Defense Information Systems Command (DISA)	VN	National Aeronautics and Space Administration (NASA)
DL	Defense Intelligence Agency (DIA)	WC	Federal Emergency Management Agency (FEMA)
DM	Marine Corps		

Chapter 3   Data Field Descriptions

Field 1 Edits: (Type 1)

- The record will be rejected if this field is blank.

- The record will be rejected if Field 2 (Transaction Type) is an "A" and the Accession Number already exists in the database.

- The record will be rejected if Field 2 is "M" or "R" and the Accession Number is non-existent in the database.

- The record will be rejected if the digraph is invalid.

Field   Description

1A   Activity Code (4 Alphanumeric)

Codes for this field are assigned by service/agency focal points, and are designed to be searched in conjunction with the Accession Number Digraph. The combination of both fields can be used to identify records submitted by each reporting activity. We suggest that you contact your focal point to obtain a valid code for this field.

Field 1A Edits: (Type 2)

- A blank entry in this field will generate an Advisory-serious error notification.

Data Field Descriptions

Chapter 3

Field   **Description**

2   **Transaction Type (1 Alpha)**

This is a critical control field requiring a valid entry to avoid rejection of the entire record by DTIC. Entries must equal one of the following single character codes:

Values

Code   Description

A   Add A Record   initial submission of a record to the database.

M   Modify A Record - modification of a record already established in the WUIS database. This code should be used when changing, completing or terminating records.

R   Correct A Record - this code can be used to correct errors in a previously submitted record without changing the Date Of Summary, or the Status Of Effort. This code should be used sparingly, and will not allow changes to Accession Number, Date of Summary or Status of Effort.

Field 2 Edits: (Type 1 or 2)

- Entering an invalid code will cause the rejection of the record.

- Entering an "A" (Add a Record) for a record already existing in the database will cause the record to be rejected.

- Entering an "M" (Modify a Record) or "R" (Correct a Record) for a non-existent Accession Number will cause rejection of the record.

- Entering an "M" in this field when the Status of Effort is "N" (New) will generate an Advisory-serious error notification.

Chapter 3   Data Field Descriptions

Field   **Description**

3   Status of Effort (1 Alpha)

Enter a code in this field describing the current status of the effort. Entries from this field are used to identify planned, active, and inactive records.

Values

Code   **Description**

N   New - Enter this code when submitting a newly funded effort.

D   Changed - Entered when making a change to a funded, ongoing effort.

P   Planned - Entered to identify a new in-house effort agreed to with a sponsor, but not yet funded. This code can also be entered to identify a planned contract/grant with unobligated funds.

C   Completed - Identifies a finished work unit effort. Should contain a concluding Progress statement. If the effort was funded by a contract or grant the performance should have passed and deliverables received.

T   Terminated - Enter this code for efforts that have been canceled, suspended, or combined with another effort. The reason for termination should be part of the concluding Progress statement. A terminated record can be reactivated by submitting a "M" (Modify a Record) Transaction Type within one year of the Date of Summary. Any terminated records over one year old should be reactivated by submitting a new work unit record.

Field 3 Edits: (Type 2)

- Entering an invalid code in this field will generate an Advisory-serious error notification.

- Entering an "N" (New) code in this field when the Transaction Type is "M" (Modify a Record) will result in an Advisory-serious error notification.

- Entering a "C" (Completed) or "T" (Terminated) code in this field when the Transaction Type is "A" (Add a Record) will result in an Advisory-serious error notification.

- Entering a "P" (Planned) code in this field when the Transaction Type is "M" (Modify a Record), and the Status of Effort in the existing record is "N" (New)/"C" (Changed), will result in an Advisory-serious error notification.

- Entering a "C" (Completed) code when the Transaction Type is "M" (Modify a Record), and the value of this field in the existing record is "P" (Planned), will result in an Advisory-serious error notification.

Field   Description

4   Performance Method (1 Alpha)
Enter a code in this field indicating the funding support for the work unit effort.

Values

Code Description

I   In-house - Work performed by a DoD Activity.

C   Contract - Work performed by a private company for DoD.

G   Grant - Work performed under a grant to a university or other institution.

T   Transfer - Work funded by DoD but performed by a non-DoD government agency.

U   Unfunded Studies - Unfunded work performed by a potential DoD contractor.

F   Foreign Co-development - Work performed with a foreign government.

Field 4 Edit: (Type 2)

- Entering an invalid code will generate an Advisory-serious error notification.

Field   **Description**

5   Performance Type (1 Alpha x 3)

Enter up to three codes in this field to provide more specific data describing the work unit effort. This field should be used to identify studies (In-house and Contracted) and other specialized performance types/funding agreements.

Example: @5@R;U;I

Values

Code	Description
S	Small Business Innovative Research (SBIR)
M	In-house Management Analyses and Studies (IMAS)
R	RDT&E Work Unit
C	Contracted Studies, Analysis and Evaluations (CSAE)
T	Cooperative R&D Agreements (CRDA)
U	University Research Initiative (URI)
I	Interagency Cost Reimbursement Order (IACRO)
P	Military Interservice Procurement Request (MIPR)

Field 5 Edit: (Type 2)

- Blank or invalid entries will generate an Advisory-serious error notification and entry of a default "R" code into the field.

Data Field Descriptions   Chapter 3

Field	Description

6   Date of Summary (6 Numeric)
This is a critical control field requiring a valid entry to avoid rejection of the entire record by DTIC. Enter the date that the record was created, or the data was accurate/pertinent . The format is YYMMDD (e.g., 920101 for January 1, 1992). When modifying an existing record the date in field 2 must be greater than the date in the database.

Field 6 Edit: (Type 1)

- A blank or invalid date entry in this field will cause rejection of the record.

Field	Description

7   Date of Preceding Summary (6 Numeric)
This field is only used when modifying/changing an already existing record. Enter the Date of Summary from the existing/previous record. The format is YYMMDD.

Field 7 Edits: (Type 2 or 3)

- Entering a date equal to the Date of Summary will generate an Advisory error notification.

- Entering an invalid date will generate an Advisory-serious error notification.

Field	Description

8   Start Date of Effort (4 or 6 Numeric)
Enter a four digit date in YYMM format, or a 6 digit date in YYMMDD format, indicating the planned or actual date when the work unit effort began.

Field 8 Edit: (Type 2)

- Entry of a blank or invalid date will generate an Advisory-serious error notification.

Chapter 3   Data Field Descriptions

Field   Description

9   **End Date (4 Alphanumeric or 6 Numeric)**

Enter a four digit date in YYMM format, or a six digit date in YYMMDD format, estimating when the work unit effort will be completed. When the work unit is completed or terminated replace the estimated date with the actual date. For continuing efforts enter "CONT" in this field.

Field 9 Edits: (Type 2)

- Entry of a blank or invalid date will generate an Advisory-serious error notification.

Field   Description

10   **Effort Security Classification Code (1 Alpha)**

This field identifies the overall classification of the effort described in the record. Enter the following security code which corresponds to the actual work:

Code	Classification
T	Top Secret
S	Secret
C	Confidential
U	Unclassified

Field 10 Edits: (Type 3)

- Blank or invalid entries will result in an Advisory error notification.

- Entering a "U" in this field when Effort Security Classification Additional Notice is "RD" or "FRD" will result in an Advisory error notification.

Data Field Descriptions — Chapter 3

Field	Description

11   Effort Security Classification Additional Notice (3 Alpha)

Enter additional security notices pertaining to the Atomic Energy Act in this field.

Values

Code	Description
Blank	
RD	Restricted Data
FRD	Formerly Restricted Data

Field 11 Edits: (Type 3)

- Entering an invalid code will result in an Advisory error notification.

- Entering an "RD" or "FRD" when Effort Security Classification Code is "U" will result in an Advisory error notification.

Field	Description

12   Record Security Classification Code (1 Alpha)

This is a critical control field that identifies the highest classification code of any of the classified fields within the record. Errors in this field will result in rejection of the record by DTIC.

Values

Code	Description
U	Unclassified
C	Confidential
S	Secret

Chapter 3   Data Field Descriptions

Field 12 Edits: (Type 1 or 3)

- Entry of a blank or invalid code will cause rejection of the record.

- Entry of a code not corresponding to the highest classification code of the classifiable fields (Objective, Approach, Progress, Product Title, and Descriptors) within the record will result in rejection.

- Entry of a code in this field that is higher than the Effort Security Classification Code will result in rejection of the record.

- Entry of a "U" in this field when Record Security Classification Additional Notice is "RD" or "FRD" will result in an Advisory error notification.

Field	Description

13   Record Security Classification Additional Notice (3 Alpha)
Enter additional security notices pertaining to the Atomic Energy Act in this field.

Values

Code	Description
Blank	
RD	Restricted Data
FRD	Formerly Restrioted Data

Field 13 Edits: (Type 1 or 3)

- Entry of an invalid code will result in rejection of the record.

- Entry of an "RD" or "FRD" when Regrading Code is not "R" will result in rejection of the record.

- Entry of a blank field value when Regrading Code is "R" will result in rejection of the record.

- Entry of an "RD" or "FRD" when the Record Security Classification - Code is "U" will result in an Advisory error.

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Data Field Descriptions   Chapter 3

Field   Description

14 Classification Authority (60 Alphanumeric)

Enter information in this field that identifies a particular official, source document, or classification guide that authorized the classification of the record. Mandatory entries are required for records with a Record Security Classification Code of "S" (Secret) or "C" (Confidential).

Field 14 Edit: (Type 1)

- If the Record Security Classification Code is "S" or "C" and this field is blank, the record will be rejected.

Field   Description

15 Regrading Code (1 Alpha)

Classified records require an entry of a code in this field representing regrading guidance.

Values

Blank	Unclassified records
D	Record with a downgrading date or event
E	Record with a declassification date or event
F	Foreign Source
O	Record with Originating Agency's Determination Required
R	Restricted Data or Formerly Restricted Data Record (Atomic Energy Act)

3-17

Chapter 3 Data Field Descriptions

Field 15 Edits: (Type 2)

- Entry of an invalid code will generate an Advisory-serious error notification.

- Entry of a blank value in a classified record will result in an Advisory-serious error notification.

- Entry of a "D" or "E" in this field without a valid Regrading Date or Regrading Event will result in an Advisory-serious error notification.

- Entry of an "O" in this field without entry of "OADR" in Regrading Event will result in an Advisory-serious error notification.

- Entry of an "R" in this field without entering "RD" or "FRD" in Record Security Classification Additional Notice will result in an Advisory-serious error notification.

Field	Description

16 Regrading Date (6 Numeric)

Enter a date that identifies when a Secret record is to be downgraded to Confidential, or identifies the date that a Confidential record is to become declassified. Enter dates in a 6 character YYMMDD format.

Field 16 Edits: (Type 2)

- Entry of an invalid date will result in an Advisory-serious error notification.

- A blank entry in this field when Regrading Code is "D" or "E" will result in an Advisory-serious error notification.

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Data Field Descriptions Chapter 3

Field	Description

17 Regrading Event (54 Alphanumeric)
Enter a description of the event to occur causing the record to either be downgraded or declassified. Enter "OADR" in this field for records that have an "O" in the Regrading Code field.

Field 17 Edit: (Type 2)

- Entry of "OADR" is required in this field when Regrading Code contains an "O", or an Advisory-serious notification will be generated.

Field	Description

18 Distribution Code (1 Alpha)
Enter the code that determines access to the record when it becomes part of the WUIS database.

Values

Code	Description
A	Distribution Unlimited
B	US Government Access Only
C	US Government Agencies and their Contractors only
D	DoD and DoD Contractors only
E	DoD Access only

Chapter 3   Data Field Descriptions

Field 18 Edits: (Type 2 or 3)

- Entry of an invalid code will cause an Advisory-serious error notification.

- Entry of a "B" or "E" in this field and a blank or invalid Distribution Reason field will result in an advisory-serious error notification.

- Entry of an "A" without an entry of "PB" in the Distribution Reason field will result in an Advisory error notification.

Field	Description

19   Distribution Reason (2 Alphanumeric)
Enter a code corresponding to the entry in the Distribution Code field. Use of a "B" or "E" Distribution Code makes an entry in this field mandatory. Entry of an "A" Distribution Code requires that a "PB" code be entered in this field.

Values

Code	Description
FG	Foreign Government Information
PI	Proprietary Information
CL	Critical Technology (Export Controlled)
TE	Test and Evaluation
CN	Contractor Performance Evaluation
PD	Premature Dissemination (to protect patentable data)
AD	Administrative or Operational Use Data
SW	Software Documentation
SA	Specific Authority (Reason other than above)
DM	Direct Military Support (Export Controlled)
PB	Public Release
Blank	When Distribution Code is not "B", "E", or "A"

Field 19 Edits: (Type 2 or 3)

- Entry of a blank field when Distribution Code is "B" or "E" will result in an Advisory-serious error notification.

- Entry of an invalid code will result in an advisory-serious error notification.

- Entry of a blank field when Distribution Code is "A" will result in an Advisory error notification.

Field	Description

20   **Title (Unclassified)(240 Alphanumeric)**
Enter an unclassified title describing the work unit effort. Do not include abbreviations, acronyms, or terms with little descriptive value such as "Research", "Study", or "Analysis" unless they are part of a meaningful phrase or concept.

Field 20 Edit: (Type 2)

- Entry of a blank field will result in an Advisory-serious error notification.

Field	Description

21   **Subordinate Record Indicator (1 Alpha)**
Enter an "S" in this field if the work unit is a component of another work unit effort. This field is intended to indicate contractual or in-house efforts that support other work units.

Values

Blank
S   Subordinate

Field 21 Edits: (Type 3)

- Entry of an invalid code will generate an Advisory error notification.

- Entry of an "S" in this field when Field 22 - Linking Accession Number is blank will result in an Advisory error notification.

Field   **Description**

22   Linking Accession Number (8 Alphanumeric x 2)
Enter up to two accession numbers identifying the work units to which this effort is subordinate. Accession number formats are described in the Field 1 description.

Field 22 Edits: (Type 3)

- Entry of a blank field when Field 21 Subordinate Record Indicator contains an "S", will generate an Advisory error notification.

- Entry of an invalid Accession Number, one that is non-existent in the WUIS database will generate an Advisory error notification.

Field   **Description**

23   Local Control (Work Unit) Number (16 Alphanumeric)
This is an optional field which provides a means for DoD facilities to identify or document work unit efforts based on their local systems.

Field 23 Edit: (None)

Data Field Descriptions | Chapter 3

Field | **Description**

---

24 Search Data (20 Alphanumeric)

Enter the Search Control Number and Date assigned to your preliminary search of the WUIS Database. Enter "N/A" if your work unit effort does not require a literature search.

Field 24 Edit: (None)

Field | **Description**

---

25 DoD Subject Categories (6 Alphanumeric x 3)

Enter up to three codes identifying the scientific and technical fields, groups, and subgroups that best relate to the work unit effort. Codes should be entered in descending order of importance. Classified records (Record Security Classification Code is "C" or "S") requires the mandatory entry of at least one valid code.The DoD Subject Category Codes and Titles are listed in Appendix A. Enter codes left justified and use semicolons to separate each code. Codes need to be "bumped" together without spaces as in the following example;

Example: @25@0101;010304;1001

Field 25 Edits: (Type 1 or 2)

- Entry of a blank value in this field when Field 12 - Record Security Classification Code is "C" (Confidential) or "S" (Secret), will result in a Catastrophic error notification and rejection of the record.

- Entry of an invalid code will result in an Advisory-serious error notification.

- Entry of a blank value in this field when the record is unclassified will result in an Advisory-serious error notification.

Chapter 3	Data Field Descriptions

Field   **Description**

26.1 Mission Area Code (4 Alphanumeric x 3)

Enter up to three codes corresponding to the Mission Areas listed in Appendix B. Enter the codes in first, second, and third order of importance. A blank entry is valid in this field. Enter codes left justified and use semicolons to separate each code. Codes need to be "bumped" together without spaces as in the following input example;

Example: @26.1@1.1;3.1;5.1

Field 26.1 Edits: (Type 3)

- Entry of an invalid mission area code in this field will generate an Advisory error notification.

Field   **Description**

26.2 Function Code (5 Alphanumeric x 3)

Enter up to three codes corresponding to the Function Codes listed in Appendix C. Enter the codes in first, second, and third order of importance. A blank entry is valid in this field. Enter codes left justified and use semicolons to separate each code. Codes need to be "bumped" together without spaces as in the following input example;

Example: @26.2@1.13;3.2;5.1.3

Field 26.2 Edits: (Type 3)

- Entry of an invalid function code in this field will generate an Advisory error notification.

Data Field Descriptions   Chapter 3

Field   Description

26.3 Technology Code (11 Alphanumeric x 3)

Enter up to three codes corresponding to the Technology Codes listed in Appendix D. Enter the codes in first, second, and third order of importance. A blank entry is valid in this field. Enter codes left justified and use semicolons to separate each code. Codes need to be "bumped" together without spaces as in the following input example;

Example: @26.3@2.1.3;1.3.1;2.4.6

Field 26.3 Edits: (Type 3)

- Entry of an invalid technology code in this field will generate an Advisory error notification.

Field   Description

27   Responsible Organization - Source Code (6 Numeric)

Enter a six digit source code corresponding to the DoD activity responsible for the execution of the effort, from the DTIC Corporate Source Authority System (CSAS). For information about source codes contact DTIC-OCC at DSN 284-6804, 6805.

Field 27 Edits: (Type 1 or 2)

- Entry of a blank value or an invalid source code in this field when Performance Method is anything other than "I" (In-house), will result in a Catastrophic Error and rejection of the record.

- Entry of a blank value or invalid code when Performance Method is "I" (In-house) will generate an Advisory-serious error notification.

Chapter 3	Data Field Descriptions

Field   **Description**

27.1 Responsible Organization - Activity Name (80 Alphanumeric)
Entries in this field are system generated in response to the source code entered in Field 27.

Field 27.1 Edit: (None, System Generated Values)

Field   **Description**

27.2 Responsible Organization - Specific Component Name (80 Alphanumeric)
This is an optional field intended to allow DoD organizations to identify the specific component that is representative for the work unit effort. Entries in this field should provide organizational information not contained within the CSAS.

Field 27.2 Edit: (None, Optional Field)

Field   **Description**

27.3 Responsible Organization - Location (71 Alphanumeric)
Entries in this field are system generated in response to the source code entered in Field 27. Descriptions of the subelements that make up this field are contained in Fields 27.3A, 27.3B, 27.3C, and 27.3D.

Field 27.3 Edit: (None, System Generated Value)

Field   **Description**

27.3A   Responsible Organization - Location - City (55 Alphanumeric)
The city corresponding to the source code entered in Field 27. Entries in this field are system generated from the CSAS.

Field 27.3A Edit: (None, System Generated Value)

Field   **Description**

27.3B   Responsible Organization - Location - State/Country (2 Alpha)
The state/country corresponding to the source code entered in Field 27. Entries in this field are system generated from the CSAS.

Field 27.3B Edit: (None, System Generated Value)

Field   **Description**

27.3C   Responsible Organization - Location - Zip Code (2 Alpha)
The zip code corresponding to the source code entered in Field 27. Entries in this field are system generated from the CSAS.

Field 27.3C Edit: (None, System Generated Value)

Chapter 3   Data Field Descriptions

Field   **Description**

27.3D   **Responsible Organization - Location - Geopolitical Code (4 Alphanumeric)**
The geopolitical code corresponding to the source code entered in Field 27. Entries in this field are system generated from the CSAS.

Field 27.3D Edit: (None, System Generated Value)

Field   **Description**

27.4 Responsible Organization - Responsible Individual Name (30 Alphanumeric)
Enter the name of the individual responsible for monitoring the work unit effort. Names should be entered following the input example given below. Do not enter prefixes/titles (Mr., Dr., Capt.) or suffixes (Jr., Sr., II). Additions of prefixes/suffixes to names within the database make the retrieval of records using names very difficult.

Example: @27.4@GRAY, BERNARD W

Field 27.4 Edit: (Type 3)

- Entry of a blank value in this field will generate an Advisory error notification.

27.5 Responsible Organization - Responsible Individual - Office Symbol/Code (12 Alphanumeric)

Enter the office symbol code of the individual responsible for monitoring the work unit effort.

Field 27.5 Edit: (Type 3)

- Entry of a blank value in this field will generate an Advisory error notification.

Field | **Description**

27.6 Responsible Organization - Responsible Individual - Commercial Phone Number (19 Alphanumeric)

Enter the commercial phone number of the individual responsible for monitoring the work unit effort. Phone numbers should be entered in the following format;

Example: @27.6@555-555-1212 X3567

Field 27.6 Edit: (Type 3)

- Entry of a blank value in this field will generate an Advisory error notification.

Field | **Description** .

27.7 Responsible Organization - Responsible Individual - DSN Phone Number (8 Alphanumeric)

Enter the DSN phone number of the individual responsible for monitoring the work unit effort. Phone numbers should be entered in the following format;

Example: @27.7@284-4408

Field 27.7 Edit: (None)

Field   **Description**

---

28 Performing Organization - Source Code (6 Numeric)

Enter a six digit source code corresponding to the DoD component, Contractor, or other government agency actually performing the work unit effort, from the DTIC Corporate Source Authority System (CSAS). For information about source codes contact DTIC-OCC at DSN 284-6804, 6805.

Field 28 Edits: (Type 1 or 2)

- Entry of a blank value or an invalid source code in this field when Performance Method is "I" (In-house), will result in a Catastrophic Error and rejection of the record.

- Entry of a blank value or invalid code when Performance Method is anything other than "I" (In-house) will generate an Advisory-serious error notification.

Field   **Description**

28.1 Performing Organization - Activity Name (80 Alphanumeric)

Entries in this field are system generated in response to source code entered in Field 28.

Field 28.1 Edit: (None, System Generated Value)

Field   **Description**

28.2 Performing Organization - Specific Component Name (80 Alphanumeric)

This is an optional field intended to allow DoD organizations to identify the specific component that is performing the work unit effort. Entries in this field should provide organizational information not contained within the CSAS.

Field 28.2 Edit: (None, Optional Field)

Data Field Descriptions   Chapter 3

Field	Description

28.3 Performing Organization - Location (71 Alphanumeric)
Entries in this field are system generated in response to the source code entered in Field 28. Descriptions of the subelements that make up this field are contained in Fields 28.3A, 28.3B, 28.3C, and 28.3D.

Field 28.3 Edit: (None, System Generated Values)

Field	Description

28.3A   Performing Organization - Location - City (55 Alphanumeric)
The city corresponding to the source code entered in Field 28. Entries in this field are system generated from the CSAS.

Field 28.3A Edit: (None, System Generated Value)

Field	Description

28.3B   Performing Organization - Location - State/Country (2 Alpha)
The state/country corresponding to the source code entered in Field 28. Entries in this field are system generated from the CSAS.

Field 28.3B Edit: (None, System Generated Value)

Field	Description

28.3C   Performing Organization - Location - Zip Code (2 Alpha)
The zip code corresponding to the source code entered in Field 28. Entries in this field are system generated from the CSAS.

Field 28.3C Edit: (None, System Generated Value)

Chapter 3   Data Field Descriptions

Field	Description

28.3D   Performing Organization - Location - Geopolitical Code (4 Alphanumeric)

The geopolitical code corresponding to the source code entered in Field 28. Entries in this field are system generated from the CSAS.

Field 28.3D Edit: (None, System Generated Value)

Field	Description

28.3E   Performing Organization - Location - Type Code (1 Alphanumeric)

The type code corresponding to the source code entered in Field 28. Entries in this field are system generated from the CSAS. Type codes are listed in Appendix H.

Field 28.3D Edit: (None, System Generated Value)

Field	Description

28.4 Performing Organization - Principal Investigator - Name (30 Alphanumeric)

Enter the name of the principal investigator for the organization performing the work unit effort. Names should be entered following the input example given below. Do not enter prefixes/titles (Mr., Dr., Capt.) or suffixes (Jr., Sr., II). Additions of prefixes/suffixes to names within the database make the retrieval of records using names very difficult.

Example: @28.4@GREEN, JAMES E

Field 28.4 Edit: (Type 3)

- Entry of a blank value in this field when Status of Effort is not "P" (Planned) will generate an Advisory error notification.

Data Field Descriptions   Chapter 3

Field   **Description**

28.5 Performing Organization - Principal Investigator - Office Symbol/Code (12 Alphanumeric)
Enter the office symbol code of the principal investigator performing the work unit effort.

Field 28.5 Edit: (Type 3)

- Entry of a blank value in this field when Status of Effort is not "P" (Planned) will generate an Advisory error notification.

Field   **Description**

28.6 Performing Organization - Principal Investigator - Commercial Phone Number (19 Alphanumeric)
Enter the commercial phone number of the principal investigator performing the work unit effort. Phone numbers should be entered in the following format;

Example: @28.6@555-555-1212 X1234

Field 28.6 Edit: (Type 3)

- Entry of a blank value in this field when Status of Effort is not "P" (Planned) will generate an Advisory error notification.

Chapter 3   Data Field Descriptions

Field	Description

28.7 Performing Organization - Principal Investigator - DSN Phone Number (8 Alphanumeric)

Enter the DSN phone number of the principal investigator performing the work unit effort. Phone numbers should be entered in the following format;

Example: @28.7@284-4408

Field 28.7 Edit: (Type 3)

- Entry of a blank value in this field when Status of Effort is not "P" (Planned) will generate an Advisory error notification.

Field	Description

28.8 Performing Organization - Associate Investigator - Name (30 Alphanumeric x 2)

Enter up to two names of the associate investigators performing the work unit effort. The names should be entered in accordance with the input example given below. Do not enter prefixes/titles (Mr., Dr., Capt.) or suffixes (Jr., Sr., II). Additions of prefixes/suffixes to names within the database make the retrieval of recc ds using names very difficult.

Example: @28.4@BROWN, AMY E;SMITH, MICHAEL P

Field 28.8 Edit: (Type 3)

- Entry of a blank value in this field when Status of Effort is not "P" (Planned) will generate an Advisory error notification.

Data Field Descriptions   Chapter 3

Field | **Description**

30 Primary Funding Data - Program Element (PE) Number (10 Alphanumeric)
Enter the PE number representing the largest amount of funding provided to the effort during the given Fiscal Year. Entries in this field must be in PE number format (NNNNNNNAAA).

Example: @30@0702840DBC

Field 30 Edits: (Type 2 or 3)

- Entry of a blank value in this field when there are entries in Project number, Task Number, Fiscal Year, Dollar Amount, and Work Years fields, will generate a Advisory-serious error notification.

- Entry of a blank value will generate an Advisory error notification.

Field | **Description**

30A Primary Funding Data - Project Number (14 Alphanumeric)
Enter the project number, or next level of program identifier, corresponding to the PE number entered in Field 30. Entries in this field, along with Field 30, should completely identify the Program 6 (RDT&E) source of funds. If the DoD appropriation is from other than Program 6, enter the acronym of the sponsoring DoD component. If the appropriation is from a non-DoD source the activity acronym may be entered.

Example:@30A@73433

Field 30A Edits: (Type 2 or 3)

- Entry of a blank value in this field when there are values entered in the corresponding funding fields will result in an Advisory-serious error notification.

- Entry of a blank value in this field will result in an Advisory error notification.

Chapter 3   Data Field Descriptions

Field	Description

30B   Primary Funding Data - Task Number (10 Alphanumeric)
Enter the RDT&E Task Number corresponding to the PE/Project numbers in Fields 30 & 30A.

Example:@30B@05

Field 30B Edits: (None)

Field	Description

30C1   **Primary Funding Data - Fiscal Year (FY) (2 Numeric)**
30D1   Enter 2 numeric digits representing the FY that funds were allocated to the
30E1   work unit effort. Up to 5 different FY's can be entered. For In-house efforts
30F1   enter the FY in which the obligational authority was granted. For
30G1   contracted efforts enter the appropriation FY for the funds that are applied
to the contract/grant.

Fields 30C1-30G1 Edits: (Type 2)

- Entry of a blank value when there are entries in the corresponding PE Number, Project Number and Task Number fields will generate an Advisory-serious error notification.

- Entry of a blank value in this field for each corresponding entry in the Dollar Amount and Work Years Fields will generate an Advisory- serious error notification.

Data Field Descriptions   Chapter 3

Field	Description

30C2   **Primary Funding Data - Dollar Amount (5 Numeric)**
30D2   Enter the dollar totals corresponding to the FY's entered in fields 30C1-
30E2   30G1. Up to 5 different dollar totals can be entered into the record at any
30F2   one time. Planned efforts will not be displayable for contractors searching
30G2   the WUIS Database. If Status of Effort is "P" (Planned) enter funding agreed
upon with the sponsor. For In-house efforts enter the total dollars
corresponding to the PE Number entered in Field 30, that are to be expended
during each FY. For Contracted efforts list the primary dollar amounts
associated with each FY appropriation. Entries are expressed as dollars in
thousands, and should be rounded off to the nearest thousand. Each entry
should be right justified and zero filled to five characters.

Example: $20,000.00 should be entered as @30C2@00020

Fields 30C2-30G2 Edit: (Type 2)

- Blank entries when Performance Method is not equal to "U" (Unfunded) will result
in an Advisory-serious error notification.

Field	Description

30C3   **Primary Funding Data - Work Years (4 Alphanumeric)**
30D3   Enter the professional work years expended on an In-House effort during a
30E3   specific FY. Up to five work year totals can be entered in the Primary
30F3   Funding Data area. Round off entries in this field to the nearest tenth of a
30G3   Work Year. Use a decimal point to represent 1/10 of a Work Year. All entries
in Work Years fields should correspond with the FY's entered in Fields 30C1-
30G1.

Example: 5.64 Work Years would be entered as @30C3@5.6

Fields 30C3-30G3 Edit: (None)

Chapter 3   Data Field Descriptions

Field   **Description**

31   **1st Contributing Funding Data - Program Element (PE) Number (10 Alphanumeric)**
Enter the PE number representing the next largest amount of funding provided to the effort during the given Fiscal Year. Entries in this field must be in PE number format (NNNNNNNAAA).

Example: @31@0702840DBC

Field 31 Edits: (Type 2 or 3)

- Entry of a blank value in this field when there are entries in Project number, Task Number, Fiscal Year, Dollar Amount, and Work Years fields, will generate a Advisory-serious error notification.

- Entry of a blank value will generate an Advisory error notification.

Field   **Description**

31A **1st Contributing Funding Data - Project Number (14 Alphanumeric)**
Enter the project number, or next level of program identifier, corresponding to the PE number entered in Field 31. Entries in this field, along with Field 31, should completely identify the Program 6 (RDT&E) source of funds. If the DoD appropriation is from other than Program 6, enter the acronym of the sponsoring DoD component. If the appropriation is from a non-DoD source the activity acronym may be entered.

Field 31A Edits: (Type 2 or 3)

- Entry of a blank value in this field when there are values entered in the corresponding funding fields will result in an Advisory-serious error notification.

- Entry of a blank value in this field will result in an Advisory error notification.

Data Field Descriptions

Field	Description

31B 1st Contributing Funding Data - Task Number (10 Alphanumeric)
Enter the RDT&E Task Number corresponding to the PE/Project numbers in Fields 31 & 31A.

Field 31B Edits: (None)

Field	Description

31C1
31D1
31E1
31F1
31G1

1st Contributing Funding Data - Fiscal Year (FY) (2 Numeric)
Enter 2 numeric digits representing the FY that funds were allocated to the work unit effort. Up to 5 different FY's can be entered. For In-house efforts enter the FY in which the obligational authority was granted. For contracted efforts enter the appropriation FY for the funds that are applied to the contract/grant.

Fields 31C1-31G1 Edits: (Type 2)

- Entry of a blank value when there are entries in the corresponding PE Number, Project Number and Task Number fields will generate an Advisory-serious error notification.

- Entry of a blank value in this field for each corresponding entry in the Dollar Amount and Work Years Fields will generate an Advisory- serious error notification.

Chapter 3   Data Field Descriptions

Field	Description

31C2 **1st Contributing Funding Data - Dollar Amount (5 Numeric)**
31D2 Enter the dollar totals corresponding to the FY's entered in fields 31C1-
31E2 31G1. Up to 5 different dollar totals can be entered into the record at any
31F2 one time. Planned efforts will not be displayable for contractors searching
31G2 the WUIS Database. If Status of Effort is "P" (Planned) enter funding agreed
upon with the sponsor. For In-house efforts enter the total dollars
corresponding to the PE Number entered in Field 31, that are to be expended
during each FY. For Contracted efforts list the primary dollar amounts
associated with each FY appropriation. Entries are expressed as dollars in
thousands, and should be rounded off to the nearest thousand. Each entry
should be right justified and zero filled to five characters.

Example: $20,000.00 should be entered as @31C2@00020

Fields 31C2-31G2 Edit: (Type 2)

- Blank entries when Performance Method is not equal to "U" (Unfunded) will result
in an Advisory-serious error notification.

Field	Description

31C3 **1st Contributing Funding Data - Work Years (4**
31D3 **Alphanumeric)**
31E3 Enter the professional work years expended on an In-House effort during a
31F3 specific FY. Up to five work year totals can be entered in the 1st
31G3 Contributing Funding Data area. Round off entries in this field to the nearest
tenth of a Work Year. Use a decimal point to represent 1/10 of a Work Year.
All entries in Work Years fields should correspond with the FY's entered in
Fields 31C1-31G1.

Example: 5.64 Work Years would be entered as @31C3@5.6

Fields 31C3-31G3 Edit: (None)

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Data Field Descriptions   Chapter 3

Field   **Description**

---

32   2nd Contributing Funding Data - Program Element (PE) Number (10 Alphanumeric)
Enter the PE number representing the next largest amount of funding provided to the effort during the given Fiscal Year. Entries in this field must be in PE number format (NNNNNNNAAA).

Example: @32@0702840DBC

Field 32 Edits: (Type 2 or 3)

- Entry of a blank value in this field when there are entries in Project number, Task Number, Fiscal Year, Dollar Amount, and Work Years fields, will generate a Advisory-serious error notification.

- Entry of a blank value will generate an Advisory error notification.

Field   **Description**

32A 2nd Contributing Funding Data - Project Number (14 Alphanumeric)
Enter the project number, or next level of program identifier, corresponding to the PE number entered in Field 32. Entries in this field, along with Field 32, should completely identify the Program 6 (RDT&E) source of funds. If the DoD appropriation is from other than Program 6, enter the acronym of the sponsoring DoD component. If the appropriation is from a non-DoD source the activity acronym may be entered.

Field 32A Edits: (Type 2 or 3)

- Entry of a blank value in this field when there are values entered in the corresponding funding fields will result in an Advisory-serious error notification.

- Entry of a blank value in this field will result in an Advisory error notification.

Chapter 3   Data Field Descriptions

Field   **Description**

32B 2nd Contributing Funding Data - Task Number (10 Alphanumeric)
Enter the RDT&E Task Number corresponding to the PE/Project numbers in Fields
32 & 32A.

Field 32B Edits: (None)

Field   **Description**

32C1   **2nd Contributing Funding Data - Fiscal Year (FY) (2**
32D1   **Numeric)**
32E1   Enter 2 numeric digits representing the FY that funds were allocated to the
32F1   work unit effort. Up to 5 different FY's can be entered. For In-house efforts
32G1   enter the FY in which the obligational authority was granted. For contracted
efforts enter the appropriation FY for the funds that are applied to the
contract/grant.

Field 32C1-32G1 Edits: (Type 2)

- Entry of a blank value when there are entries in the corresponding PE Number,
Project Number and Task Number fields will generate an Advisory-serious error
notification.

- Entry of a blank value in this field for each corresponding entry in the Dollar
Amount and Work Years Fields will generate an Advisory-serious error notification.

Data Field Descriptions   Chapter 3

Field	Description

32C2   **2nd Contributing Funding Data - Dollar Amount (5 Numeric)**
32D2   Enter the dollar totals corresponding to the FY's entered in fields 32C1-
32E2   32G1. Up to 5 different dollar totals can be entered into the record at any
32F2   one time. Planned efforts will not be displayable for contractors searching
32G2   the WUIS Database. If Status of Effort is "P" (Planned) enter funding agreed
upon with the sponsor. For In-house efforts enter the total dollars
corresponding to the PE Number entered in Field 32, that are to be expended
during each FY. For Contracted efforts list the primary dollar amounts
associated with each FY appropriation. Entries are expressed as dollars in
thousands, and should be rounded off to the nearest thousand.Each entry
should be right justified and zero filled to five characters.

Example: $20,000.00 should be entered as @32C2@00020

Fields 32C2-32G2 Edit: (Type 2)

- Blank entries when Performance Method is not equal to "U" (Unfunded) will result
in an Advisory-serious error notification.

Chapter 3   Data Field Descriptions

Field	Description

32C3
32D3   **2nd Contributing Funding Data - Work Years (4**
32E3   **Alphanumeric)**
32F3   Enter the professional work years expended on an In-House effort during a
             specific FY. Up to five work year totals can be entered in the 2nd
32G3   Contributing Funding Data area. Round off entries in this field to the nearest
             tenth of a Work Year. Use a decimal point to represent 1/10 of a Work Year.
             All entries in Work Years fields should correspond with the FY's entered in
             Fields 32C1-32G1.

         Example: 5.64 Work Years would be entered as   @32C3@5.6

Fields 32C3-32G3 Edit: (None)

Field	Description

33C   **2nd Contributing Funding Data - Rollup Indicator (1 Alpha)**
33D   Enter a "Y" (Yes) or "N" (No) indicating whether the 2nd Contributing Dollar
33E   Amount for each FY entered represents multiple funding sources (PE's).
33F
33G

         <u>**Values**</u>

         Y - Yes

         N - No

Fields 33C-33G Edit: (None)

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Data Field Descriptions

Chapter 3

Field   **Description**

34 Contract/Grant/Transfer Number (16 Alphanumeric)

Enter the identifying number assigned to the contract or fund transfer document. Entries in this field will usually be either a contract (PIN) number, a grant number, or an inter-agency fund transfer number. Planned efforts can be identified by the procurement request number. Enter contract numbers without dashes (-) in the first 13 positions. The first six positions identify the DoD procurement activity. Positions number 7&8 represent the FY. The 9th position represents the type of contract, and the final four characters are a serial number.

Example: N00014-90-F-1111 is entered as @34@N0001490F1111

Field 34 Edit: (Type 2)

- Entry of a blank value when Performance Method is "C" (Contract), "G" (Grant) or "T" (Transfer), and Status of Effort is not "P" (Planned) will generate an Advisory-serious error notification.

Field   **Description**

34.1 Contract/Grant Effective Date (6 Numeric)

Enter the start date of the contract or grant identified in Field 34. Enter the date in a 6 digit YYMMDD format.

Example: July 4, 1992 is entered as @34.1@920704

Field 34.1 Edit: (Type 2)

- Entry of a blank or invalid date when Performance Method is "C" (Contract) or "G" (Grant), and Status of Effort is not "P" (Planned) will generate an Advisory-serious error notification.

Chapter 3   Data Field Descriptions

Field   Description

34.2 Contract/Grant Expiration Date (6 Numeric)

Enter the ending date of the contract or grant identified in Field 34. Enter the date in a 6 digit YYMMDD format.

Example: July 4, 1992 is entered as @34.1@920704

Field 34.1 Edit: (Type 2)

- Entry of a blank or invalid date when Performance Method is "C" (Contract) or "G" (Grant), and Status of Effort is not "P" (Planned) will generate an Advisory-serious error notification.

Field   Description

34.3 Contract/Grant Face Value (6 Numeric)

Enter the full face value of the contract or grant identified in Field 34. Enter the contract value expressed in thousands of dollars. Entries need to be right justified and zero filled to the left. If no value is available for this field then it should be zero filled.This field is intended to show the total face value incrementally funded contracts.

Example: $500,000.00 is entered as @34.3@000500

Field 34.3 Edit: (Type 3)

- Entry of invalid characters will result in the rejection of data and an Advisory error notification.

Data Field Descriptions   Chapter 3

Field	Description

34.4 Contract/Grant Cumulative to Date Total (6 Numeric)

Enter the dollar amount expended to date on the contract or grant identified in Field 34. Enter the amount expressed in thousands of dollars. Entries need to be right justified and zero filled to the left. If no value is available for this field then it should be zero filled.This field is intended to show the total amount of funding that has been available to the work unit since origination. Entry of data in this field is especially important if it differs from the face value entered in Field 34.3.

Example: $500,000.00 is entered as @34.3@000500

Field 34.4 Edit: (Type 3)

- Entry of invalid characters will result in the rejection of data and an Advisory error notification.

Field	Description

35 Keywords (50 Alphanumeric x 20)

Enter at least one and up to 20 keywords. Use a semi-colon (;) between each entry. A keyword can consist of a single word or a phrase consisting of several words. Entries must not exceed 50 characters including spaces between the words in a phrase. Enter items that will assist system users to readily identify and retrieve pertinent information. Input should involve words and phrases that identify concepts not explicitly stated in the title.

Example: @35@BIOLOGY;NIGHT VISION

Field 35 Edit: (Type 3)

- Entry of blank values in this field will result in an Advisory error notification.

Field	Description

36   Objective Classification Code (1 Alpha)

Enter a code identifying the security classification of the text entered in the Objective Field.

Values

Code	Description
U	Unclassified
C	Confidential
S	Secret

Field 36 Edits: (Type 2)

- Entry of an invalid code will generate an Advisory-serious error notification.

Field	Description

36.1 Objective (2700 Alphanumeric)

Enter up to 2700 characters of text in this field. This field should describe the work in terms of the technical objective and the anticipated results. This statement should remain the same throughout the life of the effort. Significant changes indicate that the work unit needs to be terminated and a new work unit started.

Field 36.1 Edits: (Type 2)

- Entry of a blank field will result in an Advisory-serious error notification.

- Entry of data in this field without a valid corresponding entry in Field 36 will generate an Advisory-serious error notification.

Data Field Descriptions   Chapter 3

Field   **Description**

37   **Approach Classification Code (1 Alpha)**
Enter a code identifying the security classification of the text entered in the
Approach Field.

Values

Code   Description

U   Unclassified

C   Confidential

S   Secret

Field 37 Edit: (Type 2)

- Entry of an invalid code will generate an Advisory-serious error notification.

Chapter 3   Data Field Descriptions

Field	Description

37.1 Approach (2700 Alphanumeric)

Enter up to 2700 characters of text in this field. This field should contain a description of the approach or plan to be used to achieve the overall objective. Emphasis should be on the specific tests and equipment, theoretical work being conducted, and factors which may tend to accelerate or decelerate the work. This statement should remain the same throughout the life of the effort. Significant changes indicate that the work unit needs to be terminated and a new work unit started.

Field 37.1 Edits: (Type 2)

- Entry of a blank field will result in an Advisory-serious error notification.

- Entry of data in this field without a valid corresponding entry in Field 37 will generate an Advisory-serious error notification.

Field	Description

38   Progress Classification Code (1 Alpha)

Enter a code identifying the security classification of the text entered in the Progress Field.

Values

Code	Description
U	Unclassified
C	Confidential
S	Secret

Field 38 Edit: (Type 2)

- Entry of an invalid code will generate an Advisory-serious error notification.

Data Field Descriptions   Chapter 3

Field   **Description**

38.1 Progress (5000 Alphanumeric)

Enter up to 5000 characters of text in this field. This field should contain narrative statements concerning the progress achieved towards the goals defined in fields 36.1 and 37.1. Include the dates that the narrative covers in each progress statement. Succeeding progress statements require the resubmittal of previous statements to avoid overlaying the progress history of the effort. In other words resubmit any statements that you still want to appear in the record with your modifications. All significant modifications to the record should include a new progress statement.

Field 38.1 Edits: (Type 2)

- Entry of a blank field when Transaction Type is "M" (Modify) will result in an Advisory-serious error notification.

- Entry of data in this field without a valid corresponding entry in Field 38 will generate an Advisory-serious error notification.

Field   **Description**

39   Product Set Number (1 Numeric)

Information identifying up to five products can be entered into the WUIS database. Enter a number between one and five in this field to represent which product the information contained in fields 39.1-39.4 belongs to. Data within existing product sets can be corrected or updated by a Transaction Type of "M" (Modify) or "R" (Correction) and the entry of an existing data set number. The other product fields must be resubmitted with the transaction.

Field 39 Edits: (Type 2)

- Entry of an invalid number or character will generate an Advisory-serious error notification.

Chapter 3   Data Field Descriptions

Field   **Description**

39.1 Product Title Classification Code (1 Alpha)
Enter a code identifying the security classification of the text entered in the Products Title Field.

Values

Code	Description
U	Unclassified
C	Confidential
S	Secret

Field 39.1 Edits: (Type 2)

- Entry of an invalid code will generate an Advisory-serious error notification.

- Entry of a code when Field 39.5 - Product Indicator is "N" (No) will generate an Advisory-serious error notification.

Field   **Description**

39.2 Product ID/Title (100 Alphanumeric)
Enter a brief title or description of the product(s) resulting from the work unit.

Field 39.2 Edits: (Type 2 or 3)

- Entry of a blank value in this field when there is a value in the Product Set Number Field will result in an Advisory error notification.

- Entry of text in this field when the Product Indicator is "N" (No) will generate an Advisory-serious error notification.

Data Field Descriptions

Field   **Description**

39.3 Product ID/Report Number (35 Alphanumeric)
Enter a product identification code assigned by your agency or local activity.

Field 39.3 Edit: (Type 2)

- Entry of any value when the Product Indicator is "N" (No) will result in an Advisory-serious error notification.

Field   **Description**

39.4 Product AD Number (9 Alphanumeric)
Enter the AD (Accession) Number assigned to the technical report or product within DTIC's collection. This field will be cross checked by DTIC to aid in acquisition of input to the technical report and other collections.

Field 39.4 Edit: (None)

Chapter 3   Data Field Descriptions

Field   **Description**

39.5 Product Indicator (1 Alpha)

Enter a yes or no indicator showing that a technical report or other product was or will be submitted to DTIC. Only one product indicator per record is required regardless of the number of product sets entered.

Values

Y   Yes
N   No

Field 39.5 Edits: (Type 3)

- Entry of an invalid code will generate an Advisory error notification.

- Entry of an "N" in this field when any of the other product fields contain data will result in an Advisory error notification.

Field   **Description**

40   Domestic Technology Transfer (Civilian Applicability)(2 Alpha)

Enter a code indicating whether the effort will produce results applicable to the civilian sector.

Values

HI   High potential for civilian application
LO   Low potential for civilian application
NO   No potential for civilian application

Field 40 Edit: (Type 3)

- Entry of an invalid code will result in an Advisory error notification.

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Data Field Descriptions   Chapter 3

Field   **Description**

41   Studies and Analysis Categories (1 Numeric)
Enter a code corresponding to the subject category of the effort. Entries in this field
are only required for studies /CSAE work units where Performance Type is "C" or
"M".

Values

Code   Description

1   Manpower and Personnel
2   Concepts and Plans
3   Operations and Force Structure
4   Installations and Logistics   -
5   Science, Technology, Systems and Equipment
6   Management
7   Intelligence
8   International Security
9   Social and Natural Science Studies

Field 41 Edit: (Type 3)

- Entry of an invalid code when Performance Type is "C" or "M" will result in an
Advisory error notification.

Chapter 3	Data Field Descriptions

Field	Description

42   Special Study Subjects (2 Alpha)

Enter a code that identifies Models and Codewords, Sensitive Material and Foreign Area Studies. Entries in this field are only required when Performance Type is "C" or "M".

Values

SM   Models (Study develops or depends upon a major Computer-operated model)
BC   Identifies databases using codeword or specifically sensitive material
SB   Studies-related bibliographies, state-of-the-art surveys, etc.
SD   Uses or develops databases
MA   Develops study methods or approaches
OR   Systems analysis, operations research analysis, policy analysis
CE   Cost benefit or economic analysis
FS   Force structure analysis
RA   Resource allocation
TG   Target selection analysis
CA   Capability analysis
FE   Feasibility analysis
TA   Threat analysis
SF   Foreign area social science research
SP   Foreign area policy planning research
BF   Identifies databases with data on foreign forces or equipment, whether or not these have been provided by the intelligence community

Field 42 Edit: (Type 3)

- Entry of an invalid code when Performance Type is "C" or "M" will result in an Advisory error notification.

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Data Field Descriptions   Chapter 3

Field · **Description**

44 Primary Project Serial Number (3 Alphanumeric)

Only Army records require entries in this field. Army components should enter the last three characters of the primary project number.

Field 44 Edit: (Type 3)

- Entry of a blank value in this field when the agency digraph is "DA" will result in an Advisory error notification.

Field · **Description**

45 International Sources Considered (1 Alpha)

Enter a code showing whether international sources have been considered. This is an optional field.

Values

Code Description

Y   International Sources Considered Applicable (ISCA)

N   International Sources Not Considered Applicable (ISCA)

Field 45 Edit: (None, Optional Field)

Field · **Description**

46 Processing Date (11 Alphanumeric)

This field contains the date that the record was updated to the WUIS database. Entries in this field are system generated.

Field 46 Edit: (None, System Generated Value)

Chapter 3   Data Field Descriptions

Field	Description

47   Receipt Date (11 Alphanumeric)

This field contains the date that the record was received by DTIC. Entries in this field are system generated.

Field 47 Edit: (None, System Generated Value)

Field	Description

48   Descriptors - Classification Code Overall (1 Alpha)

This field contains a code identifying the security classification of the descriptors generated by DTIC's MAI process. This field is system generated.

<u>Values</u>

Code	Description
U	Unclassified
C	Confidential
S	Secret

Field 48 Edits: (None, System Generated Value)

Field	Description

48.1 Descriptors (60 Alphanumeric x 50)

Entries in this field are words or groups of words matching DTIC's Thesaurus of posting terms. These entries are system generated by Machine Aided Indexing of the narrative and title fields. Up to 50 terms per record can be stored.

Field 48.1 Edits: (None, System Generated Value)

Data Field Descriptions Chapter 3

Field	Description

49 Thrust Indicators (8 Alphanumeric)

Enter up to three codes indicating the technology thrust area for the Work Unit effort.

Values

Code Description

To be determined

Field 49 Edits: (None)

APPENDIX B

DISTRIBUTION CONTROL AND MARKING OF TECHNICAL DOCUMENTS

A. DISTRIBUTION INFORMATION

1. Distribution List

Each project manager must provide Technical Editing with names, office symbols, and complete addresses of all agencies who are to receive initial copies of TRs. The project manager must update the list for each technical report and limit distribution to only those who need to receive the TR.

2. Handling

Initial distribution is handled by Technical Editing. Subsequent requests for TRs are sent to the Defense Technical Informa tion Center, Cameron Station, Alexandria, VA 22314. Limited distribution documents may require originator's approval for release.

3. Distribution Release Statements

The Cover, Notice Page, and SF 298 must display one of the following distribution statements, as outlined in AFI 61-204.

a. Distribution Statement A: Approved for public release; distribution is unlimited. NOTE: ALL STATEMENT A REPORTS MUST BE CLEARED BY THE SCIENTIFIC AND TECHNICAL INFORMATION PROGRAM MANAGER (STINFO) AND APPROVED FOR PUBLIC RELEASE BY THE PUBLIC AFFAIRS OFFICE (PA). THE TECHNICAL EDITOR WILL REQUEST PA APPROVAL FOR ALL CAMERA-READY TECHNICAL REPORTS BEFORE OBTAINING THE DIRECTOR'S SIGNATURE.

b. Distribution Statement B:

Distribution limited to U.S. Government agencies only; this report documents test and evaluation. Distribution limitation applied (date). Other requests for this document must be referred to the Armstrong Laboratory Environics Directorate (AL/EQPP), 139 Barnes Drive, Tyndall Air Force Base, Florida 32403-5323.

Distribution limited to U.S. Government agencies only; this report contains information for operational or administrative use. Distribution limitation applied (date). Other requests for this document must be referred to the Armstrong Laboratory Environics Directorate (AL/EQPP),139 Barnes Drive, Tyndall Air Force Base, Florida 32403-5323.

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Distribution limited to U.S. Government agencies only; this report contains software documentation that can be released only under provisions of DOD Instruction 7930.2. Distribution limitation applied (date). Other requests for this document must be referred to the Armstrong Laboratory Environics Directorate (AL/EQPP), 139 Barnes Drive, Tyndall Air Force Base, Florida 32403-5323.

Distribution limited to U.S. Government agencies only; this report documents proprietary information. Distribution limitation applied (date). Other requests for this document must be referred to the Armstrong Laboratory Environics Directorate (AL/EQPP), 139 Barnes Drive, Tyndall Air Force Base, Florida 32403-5323. NOTE: (FOUR-YEAR SBIR LIMITATION).

Distribution limited to U. S Government agencies only; this report contains information that must be protected from premature dissemination. Distribution limitation applied (date). Other requests for this document must be referred to the Armstrong Laboratory Environics Directorate (AL/EQPP), 139 Barnes Drive, Tyndall Air Force Base, Florida 32403-5323. (NOTE: USE THIS ONE FOR PATENT PROTECTION.)

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c. Distribution Statement C:

Distribution limited to U.S. Government agencies and their contractors; this report documents critical technology. Distribution limitation applied (date). Other requests for this document must be referred to the Armstrong Laboratory Environics Directorate (AL/EQPP), 139 Barnes Drive, Tyndall Air Force Base, Florida 32403-5323.

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d. Distribution Statement D:

Distribution limited to DOD and DOD contractors only; this report contains software documentation that can be released only under provisions of DOD Instruction 7930.2. Distribution limitation applied (date). Other requests for this document must be referred to the Armstrong Laboratory Environics Directorate (AL/EQPP), 139 Barnes Drive, Tyndall Air Force Base, Florida 32403-5323.

Distribution limited to DOD and DOD contractors only;
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applied (date). Other requests for this document must be referred
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Barnes Drive, Tyndall Air Force Base, Florida 32403-5323.

    e. Distribution Statement E:

Distribution limited to DOD components only. Document
contains export-controlled data. Distribution limitation applied
(date). Other requests for this document must be referred to the
Armstrong Laboratory Environics Directorate (AL/EQPP), 139 Barnes
Drive, Tyndall Air Force Base, Florida 32403-5323.

Distribution limited to DOD components only. This
report contains information that must be protected from premature
dissemination. Distribution limitation applied (date). Other
requests for this document must be referred to the Armstrong
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Tyndall Air Force Base, Florida 32403-5323.

. Distribution limited to DOD components only; this report
contains software documentation that can be released only
under provisions of DOD Instruction 7930.2. Distribution limitation
applied (date). Other requests for this document must be referred
to the Armstrong Laboratory Environics Directorate (AL/EQPP), 139
Barnes Drive, Tyndall Air Force Base, Florida 32403-5323.

Distribution limited to DOD components only; this report
documents critical technology. Distribution limitation applied
(date). Other requests for this document must be referred to the
Armstrong Laboratory Environics Directorate (AL/EQPP), 139 Barnes
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Distribution limited to DOD components only; this report
contains foreign government information that may be released to
foreign nationals only with approval of competent authority.
Distribution limitation applied (date). Other requests for this
document must be referred to the Armstrong laboratory Environics
Directorate (AL/EQPP), 139 Barnes Drive, Tyndall Air Force Base,
Florida 32403-5323. (NOTE: DOCUMENTS WITH THIS STATEMENT ARE
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Tyndall Air Force Base, Florida 32403-5323, or higher DOD authority
(NOTE: DOCUMENTS CONTAINING THIS STATEMENT ARE NORMALLY CLASSIFIED.)

g. Distribution Statement X:

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4. The following notice is required on all documents determined to contain export-controlled technical data.

WARNING. This document contains technical data whose export is restricted by the Arms Export Control Act (Title 22, U.S.C., Sec 2751 et se .) or Executive Order 12470. Violations of these export laws are subject to severe criminal penalties.

5. All limited distribution technical documents will be marked in the following manner:

a. Classified: DESTRUCTION NOTICE: Destroy in accordance with DOD 5200.22M, Industrial Security Manual, Section II-19 or DOD 5200 I-R, Information Security Program Regulation, Chapter 9.

b. Unclassified: DESTRUCTION NOTICE: Destroy by any method that will prevent disclosure of contents or reconstruction of the document.

6. If this Laboratory publishes a technical report with limited distribution, the agency writing or producing the report (even another DOD laboratory) should be prohibited from publishing this research as their unlimited distribution report. As a project manager, you should consider this in preparing your Statement of Work.

7. Initial distribution of TRs should only include those you know have a legitimate need for the information. Others can buy the reports from Defense Technical Information Center or National Technical Information Service. As a taxpayer and a project manager, you should try to limit your initial distribution list to 75 copies.

8. The project manager determines which statement applies. For other distribution statements not specifically addressed in this handbook, contact the technical editor or the STINFO Program Manager.

B. SECURITY CLASSIFICATION

1. The front and back covers of each classified report will be marked, top and bottom, with the overall classification of the document (see example in Appendix A). Each page will be marked conspicuously, according to its own content, centered at top and bottom, in letters larger than the letters in the text. Security

classification markings may be affixed to reproducibles by preprinting on pages, by applying preprinted marking to pages, by transfer paper, or by other similar methods. Markings WILL NOT be rubber-stamped on photographs or slick or glossy reproducibles.

2. Every element—heading, subheading, caption, paragraph, figure, and table—in a classified report will be marked individually with the appropriate classification of the information con- tained in that particular element. The classification of a para- graph will be shown in parentheses at the beginning of the para- graph. The following abbreviations will be used: (U) for UNCLASSIFIED, (C) for CONFIDENTIAL, (S) for SECRET. When appropriate, the symbols "RD" for Restricted Data and "FRD" for Formerly Restricted Data will be added, e.g., (C-FRD). The classification of each subparagraph will be marked. The classification of a figure or table will be shown within or contiguous to the figure or table at the lower right-hand edge, as viewed, so that the marking will be conspicuous and will be reproduced on any copies made. Abbre- viated classification markings will not be used on figures and tables. The classification of the caption is abbreviated in paren theses between figure or table number and caption. In the List of Figures and List of Tables, the abbreviated classification in parentheses is required between the figure or table numbers and the respective caption. NOTE: Classification of Titles or Headings is to be avoided wherever possible. In the Table of Contents, each component will carry the same classification as is given for it in the text.

3. Classified references WILL NOT be listed in reports having Distribution Statement A.

C. SPECIAL CONTROL MARKINGS

1. Not Releasable to Foreign Nationals (NOFORN)

When NOFORN data are included in a report, this statement—Not Releasable to Foreign Nationals—MUST BE included on the covers, in Block 3 of the DD Form 1473, and on the bottom of each page on which such material appears. In addition, each paragraph, figure, or table containing such information must be so marked. The abbreviation, NOFORN, may be used following the classification of the paragraph. For example: (S-NOFORN). The abbreviation, NOFORN, may be used following the spelled out classification of that table or figure. For example: SECRET- NOFORN.

2. WARNING NOTICE—Intelligence Sources and Methods Involved (WNINTEL)

This statement will appear on the covers, on the DD Form 1473, and on each page on which such information appears. Each paragraph, figure, and table containing such information will carry, in addition to any other classification, the abbreviation WNINTEL. Example: (S-NOFORN-WNINTEL). If both NOFORN and WNINTEL appear on the same page, the two statements can be typed on either side of the page number, two spaces below the last line of text.

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3. See AFR 205-1 for warning notices for RD FRD, other special markings, and for specific details.

D. PROPRIETARY DATA

These data shall be marked in accordance with Defense Acquisition Regulation 7-104.9(a). Limited rights shall be effective, provided the PROPRIETARY identification is shown ONLY for that portion (paragraph, figure, or table) or portions of any technical report to which PROPRIETARY applies. The distribution of such TRs shall be limited. In addition, the report will be marked as follows.

1. Cover. THIS REPORT CONTAINS PROPRIETARY INFORMATION.

2. Inside front cover is marked with the legend below in which is inserted:

      a. The number of the prime contract under which the technical data are to be delivered.
      b. The name of the Contractor and any subcontractor by whom the technical data were generated, and

      c. An explanation of the method used to identify limited rights data.

<div align="center">LIMITED RIGHTS LEGEND</div>

Contract No. ....

Contractor:

Explanation of Limited Rights Data Indication Used: THE WORD "PROPRIETARY" IS USED TO IDENTIFY EVERY PIECE OF LIMITED RIGHTS DATA.

Those portions of these technical data indicated as limited rights data shall not, without the written permission of the above Contractor, be either (a) used, released, or disclosed in whole or in part outside the Government, (b) used in whole or in part by the Government for manufacture or, in the case of computer software documentation, for preparing the same or similar computer software, or (c) used by a party other than the Government, except for: (i) emergency repair or overhaul work only, by or for the Government, where the item or process concerned is not otherwise reasonably available to enable timely performance of the work, provided that the release or disclosure hereof outside the Government shall be made subject to a prohibition against further use, release or disclosure; or (ii) release to a foreign government, as the interest of the United States may require, only for information or evaluation

within such government, or for emergency repair or overhaul work by or for such government under the conditions of (i) above. This legend, together with the indications of the portions of this data which are subject to such limitations shall be included on any reproduction hereof which includes any part of the portions subject to such limitations.

3. DD Form 1473. Blocks 3 and 19, add: "THIS REPORT CONTAINS PROPRIETARY INFORMATION." Type in all caps before other data appearing in these blocks.

4. Preface. Add: "Portions of this report (identified by the designation PROPRIETARY) contain data furnished to the U.S. Government as Limited Rights Data pursuant to DAR Clause 7-104.9, and contract (add number)."

5. Text. Each paragraph containing proprietary data will be marked at the beginning after classification. Example: "1. (U) (PROPRIETARY) The . . ."

6. Figures and Tables. Add: (PROPRIETARY) after required classification. Example: "UNCLASSIFIED (PROPRIETARY)."

7. General. At bottom of each page containing proprietary data add: "This page contains proprietary information." This notation can be typed to one side of the page number on either side of the page two lines below last line of text.

E. STANDARD STATEMENTS

The following statements or similarly worded statements may also be used on an "as-needed" basis:

When U.S. Government drawings, specifications, or other data are used for any purpose other than a definitely related Government procurement operation, the Government thereby incurs no responsibility nor any obligation whatsoever, and the fact that the Government may have formulated, furnished, or in any way supplied the said drawings, specifications, or other data, is not to be regarded by implication or otherwise, as in any manner licensing the holder or any other person or corporation, or conveying any rights or permission to manufacture, use, or sell any patented invention that may in any way be related thereto."

"This report has been authored by a contractor/ employee of the United States Government. The United States Government retains a nonexclusive, royalty-fee license to publish or reproduce the material contained herein, or allow others to do so, for the United States Government purposes."

"This report discusses laboratory and field testing of
biodegradable solvents in Air Force industrial operations It
does not constitute an endorsement of these products, nor can it
be used for advertising the products."

"This report discusses field tests of biodegradable solvents in
Air Force industrial operations. The report does not constitute
an endorsement or rejection of these products, nor can it be
used for advertising a product."

Other statements and disclaimers can be formulated as
needed.

G. COPYRIGHTED MATERIALS

When contractor-produced reports contain illustrative or other
material reproduced from copyrighted sources, contractors preparing
the reports must submit written evidence that he has obtained
permission to reproduce the material for the technical report.
Final TRs submitted without this evidence will not be accepted as
reproducible copy and payment may be withheld. Technical
editingwill provide guidance on marking illustrations and assist in
preparing copyright notices.

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APPENDIX C

TECHNICAL REPORT MECHANICS

SECTION I

TECHNICAL DOCUMENT PREPARATION INSTRUCTIONS

The instructions presented in this section apply to all technical reports and other documents submitted to Technical Editing, except for Small Business Innovative Research Phase I reports which will be dealt with in a separate chapter.

A. DRAFTS

Project officers will submit clean, typed, 1 1/2-or double- spaced drafts of in-house or contractor-produced technical reports to AL/EQPI for assignment of a TR number and editing. In addition, each draft should be accompanied by an ASCII or other word-processing disc that is compatible with our Wang Word Processing Plus equipment. The editor will look for the following:

1. Complete, accurate, logical, and technical presentation

2. Clear, informative writing

3. Clear, uncluttered professional illustrations

3. Proper format and organization

4. Acceptable grammar and spelling

5. Conformance to ESL Style (See AL/EQPI HBK 61-202B B)

6. Possible copyright violations

Single-spaced drafts printed on both sides will not be accepted! Do not stamp "Draft Copy" over text of draft.

The editor will normally use the following source books when reviewing the draft copy.

Government Printing Office Style Manual

Webster's Third New International Dictionary

The Chicago Style Manual

ANSI Standard Z39.198XX

Day, Robert, How to Write a Scientific and Technical Paper

and Technical Paper

All edited drafts are sent to project managers for review, coordination, and return to author, as necessary.

The technical editor will resolve all technical or editorial questions with the project officer before publication of the report.

The project manager will review contractor-prepared reports for complete and accurate technical content and compliance with contract specification. He or she will then return an annotated edited/ reviewed copy of the draft to the contractor for correction and preparation of the final Camera-Ready Copy (CRC). The project officer should assure that the contractor returns this draft with the CRC.

B. CAMERA-READY COPY (CRC) (5.9.1.2; 5.9.3)

- The CRC will be prepared single- or 1 1/2-spaced on one side of white, heavyweight, opaque bond paper or reproducible masters (8 1/2 by 11 inches) suitable for camera and microfiche reproduction. Neither dot matrix typing nor typesetting is acceptable. Camera-ready copy will include a completed Standard Form 298, Distribution List, RD Form 3, and Preface signed by Project Manager and Division Chief, when submitted to EQPI. After final editorial review, EQPI will obtain Director's signature and forward for printing. The following provisions apply:

1. Print must be clear, legible and reproducible.
2. Calculations and equations should be professionally lettered.
3. Figures, tables, or inset material must be taped or pasted down around the sides. Use transparent tape.
4. Marking on text should only be done with a nonreproducible pencil.
5. Delete all extraneous markings such as contractor TR numbers, drawing numbers, and similar contractor identification. The contractor's TR number may be included on the SF 298.

The technical editor will review all incoming CRCs for compliance with these standards. Unsatisfactory CRCs will be returned to the project officer for corrections. If necessary, the technical editor will meet with contractors and/or project officers to resolve problems and provide guidance. Upon completion of publication, all CRCs are returned to the project officer for disposition.

Upon receiving a technical report, the Defense Technical Information Center (DTIC) reduces each report to microfiche and then prints hard copy in response to requests. A report that is barely legible will make a poor quality microfiche, and an unreadable hard copy. Therefore, CRCs submitted for AFESC TRs should be original print, whenever possible. This includes not only the text, but forms, drawings, schematics, tables, listings, and computer printouts. Original photographs should be submitted. In cases where reproduction with electrostatic copiers is unavoidable, care must be taken to ensure that a reproducible copy is submitted. When illustrative material is reduced too drastically, or when an extremely small type face is reduced, the characters will not survive the DTIC reduction-reproduction process. Choose a larger

page and a larger type face for the originals that must be reduced before printing. In addition, do not tape over characters with heat-sensitive tape, because the tape will melt the characters and produce unsatisfactory copy.

NOTE:Project Managers must not sign off on DD Form 250 until Technical Editing has accepted the CRC for publication.

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SECTION II

TECHNICAL REPORT ORGANIZATION

A. ORDER

Although TRs may not always contain all the following elements, those used must appear in the following order:

Front matter

Front Cover (constructed by EQPI)
Notice Statement Signed (inside front cover)
Report Documentation Page, SF 298 (pages i and ii)
Preface (page iii)
Executive Summary (page v)
Table of Contents
List of Figures
List of Tables
Glossary of Terms (if needed)
List of Abbreviations, Acronyms and Symbols (if needed)

Body ofReport

Introduction (SECTION I)
OBJECTIVE
BACKGROUND
SCOPE
Main text (Perhaps several sections)
Conclusions
Recommendations (If needed)

Back Matter

References (If needed)
Bibliography (If needed)
Appendices (If needed)
Index (If needed)

B. MULTIVOLUMES

A technical report shall not contain more than 175 sheets (350 pages). If a volume requires more than 175 sheets, additional volumes may be used to contain appendices, mathematical analyses, operation instructions, etc.

All volumes of the same TR will carry the identical basic title, and each separate volume will carry an identifying Roman numeral volume number and a distinctive subtitle. Example: AL/EQ-TR-1993-XXXX Laboratory Evaluation of Natural Attenuation of Fuels in Soil at Columbus AFB: Volume II: Computer Modeling

Specify the volume number and the total number of volumes; i.e., Volume I of III, as part of the subtitle (Block 4, SF Form 298).

The Abstract of a multiple-volume TR may encompass all the volumes and thus be the same in each volume, or it may be written to cover the material in each volume separately, depending on the nature of the material.

Add a statement at the beginning of Block 13 (Abstract) of SF 298 to include the following type of information:

This technical report is divided into three volumes. Volume I explains the Computer Model for Bomb Damage Repair Times, while Volume II contains the Appendix, and Volume III is the User's Manual.

Treat each volume as a separate document with separate covers, SF 298, Preface, Table of Contents, and consecutive Arabic numbering systems for pages, figures, tables, etc. A Table of Contents, List of Figures, and List of Tables will be prepared for Volume I and for each subsequent volume, covering that volume only.

C. PARTS

At times, publications exceed the 350-page limit. Although the material is continuous, these publications can be broken into parts.

1. Breakdown

Treat this type of report as one continuous publication with covers separating the parts at approximately every 300 pages.

Start each part at a new section or major paragraph heading when possible.

Be sure each part begins on a new right-hand (odd-numbered page.

2. Front Cover

Identify each part in Arabic numerals on the front cover: Part 1 of 2; Part 2 of 2.

3. SF Form 298. An SF 298 will be placed at the beginning of each part. The following instructions will apply:

a. Add a statement at the beginning of Block 13 (Abstract), to encompass the following type of information:

"This report is divided into parts. Part 1 consists of the front matter and text pages 1-252. Part 2 consists of text pages 253-490, Appendixes A and B, and the distribution list."

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b. Block 1 will reflect the TR number and the particular part number; i.e., AL/EQ-TR-1993-XXXX, Part 1 (or Part 2 or Part 3, as appropriate).

c. Block 11 will show the title of the TR and the part number as follows: TITLE, Part 1 of 3 (or Part 2 of 3, etc., as appropriate).

d. Block 15 will reflect the total number of pages within the covers of the specific part. This will be filled in by the Editor.

e. All other information on the SF 298 will be the same for all parts.

SECTION III

FRONT MATTER (5.2, 5.3)

A. PAGE NUMBERING AND USAGE

Page numbers for front matter will be in lower-case Roman numerals, centered on line 61. The first page following SF 298 (Preface) will be page iii. The reverse page will be left blank so that the Executive Summary will begin on page v (a right-hand page). Even-numbered pages are left pages and odd-numbered pages are right pages. This continues throughout the report. The text and appendix pages are numbered consecutively in Arabic numerals. Pages will <u>not</u> be numbered according to section, chapter or appendix unless the technical report is to be used as an operating or design manual, then only with the advance approval of the Technical Editor.

B. NOTICE PAGE

The notice page will be the inside front cover of the technical report and will be signed by at least the Project Manager, the Division Chief, and the Director. The notice page will contain whatever notices are necessary to protect the air force, a distribution statement, and a statement that the technical report has been reviewed and is approved for publication. Notices for reports with limited distribution must contain the appropriate limitation statement, as well as the Export Control paragraph required by current DOD directives. Special notices such as reproduction limitations, legal information, safety precautions, disclaimers, compliance with special regulations, or disposition instructions will be included in the notices. If distribution is unlimited the notice must state that the report has been reviewed by Public Affairs (PA) and can be released to the general public, including foreign nationals. For examples of the notice page, see Figures C-1, C-2, C-3, and C-4.

C. SF 298

The Standard Form 298 transmits the technical document to Defense Technical Information Center. It provides basic information about the technology described in the report, distribution instructions, an abstract and key words. The SF 298 will be numbered pages i and ii of the document. The SF 298 comes with instructions for completing it. An Example of a completed SF 298 is shown as Figure C-5.

D. PREFACE

The preface will include necessary administrative information such as project, task, and work unit numbers and titles; inclusive dates of research reported; date report was submitted by the

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NOTICES

This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United states Government nor any agency thereof, nor any employees, nor any of their contractors, subcontractors, or their employees, make any warranty, expressed or implied, or assume any legal liability or responsibility for the accuracy, completeness, or usefulness of any privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency, contractor, or subcontractor thereof. The views and opinions of the authors expressed herein do not necessarily state or reflect those of the United States Government or any agency, contractor, or subcontractor thereof.

When Government drawings, specifications, or other data are used for any purpose other than in connection with a definitely Government-related procurement, the United States government incurs no responsibility or any obligation whatsoever. The fact that the Government may have formulated or in any way supplied the said drawings, specifications, or other data is not to be regarded by implication, or otherwise in any manner construed , as licensing the holder or any other person or corporation; or as conveying any rights or permission to manufacture, use, or sell any patented invention that may in any way be related thereto.

This technical report has been reviewed by the Public Affairs Office (PA) and is releasable to the National Technical Information Service (NTIS) where it will be available to the general public, including foreign nationals.

This report has been reviewed and is approved for publication.

BRUCE J NIELSEN   MICHAEL G. KATONA, PhD
Project Manager   Chief Scientist, Environics Directorate

ROBERT D.LAPOE, Major, USAF, BSC   NEIL J. LAMB, Colonel, USAF, BSC
Chief, Site Remediation   Director, Environics Directorate

Figure C-1. Notice Page with Unlimited Distribution

This report has been reviewed and is approved for publication.

BRUCE J NIELSEN
Project Manager

MICHAEL G. KATONA, PhD
Chief Scientist, Environics Directorate

ROBERT D.LAPOE, Major, USAF, BSC
Chief, Site Remediation

NEIL J. LAMB, Colonel, USAF, BSC
Director, Environics Directorate

Figure C-2. Notice Page for Limited (Patent) Document.

NOTICES

This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United states Government nor any agency thereof, nor any employees, nor any of their contractors, subcontractors, or their employees, make any warranty, expressed or implied, or assume any legal liability or responsibility for the accuracy, completeness, or usefulness of any privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency, contractor, or subcontractor thereof. The views and opinions of the authors expressed herein do not necessarily state or reflect those of the United States Government or any agency, contractor, or subcontractor thereof.

When Government drawings, specifications, or other data are used for any purpose other than in connection with a definitely Government-related procurement, the United States government incurs no responsibility or any obligation whatsoever. The fact that the Government may have formulated or in any way way supplied the said drawings, specifications, or other data is not to be regarded by implication, or otherwise in any manner construed, as licensing the holder or any other person or corporation; or as conveying any rights or permission to manufacture, use, or sell any patented invention that may in any way be related thereto.

Distribution authorized to U. S. Government agencies only because of the proprietary nature of the research. Limitation applied June 1993 and will be in effect for 4 years. Other requests for this document must be referred to AL/EQPP, 139 Barnes Drive, Suite 2, Tyndall Air Force Base, Florida, 32403-5323.

DESTRUCTION NOTICE: DESTROY BY ANY METHOD THAT WILL PREVENT DISCLOSURE OF CONTENTS OR RECONSTRUCTION OF THE DOCUMENT.

FLOYD L. WISEMAN, Capt, USAF
Project Manager

MICHAEL G. KATONA, PhD
Chief Scientist, Environics Directorate

EDWARD N. COPPOLA, Major, USAF
Chief, Environmental Compliance
Division

NEIL J. LAMB, Colonel, USAF, BSC
Director, Environics Directorate

Figure C-3. Notice Page for SBIR Document

This Technical Paper is published as received and has not been edited by the technical editing staff of the Armstrong Laboratory Environics Directorate.

When Government drawings, specifications, or other data are used for any purpose other than in connection with a definitely Government-related procurement, the United States government incurs no responsibility or any ligation whatsoever. The fact that the Government may have formulated or in any way supplied the said drawings, specifications, or other data is not to be regarded by implication, or otherwise in any manner construed, as licensing the holder or any other person or corporation; or as conveying any rights or permission to manufacture, use, or sell any patented invention that may in any way be related thereto.

This report has been reviewed by the Public Affairs Office (PA) and is releasable to the National Technical Information Service (NTIS). At NTIS, it will be available to the general public, including foreign nationals.

This report has been reviewed and is approved for publication.

BRUCE J. NIELSEN   MICHAEL G. KATONA, PhD
Project Manager   Chief Scientist, Environics Directorate

ROBERT G.LAPOE, Major, USAF, BSC   NEIL J. LAMB, Colonel, USAF, BSC
Chief, Site Remediation   Director, Environics Directorate
Division

Figure C-4. Notice Page for Technical Paper

REPORT DOCUMENTATION PAGE

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.

1. AGENCY USE ONLY (Leave blank)	2. REPORT DATE 18 June 1993	3. REPORT TYPE AND DATES COVERED Final Report 4Jun92 – 4Jan93

4. TITLE AND SUBTITLE	5. FUNDING NUMBERS
Microcomputer Model for Assessment of Fuel Jettisoning Impact	
6. AUTHOR(S)	F08635-92-C-0067
Todd R. Quackenbush, Milton E. Teske, Constantine E. Polymeropoulos, and Thomas B. Curbishley	

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)	8. PERFORMING ORGANIZATION REPORT NUMBER
Continuum Dynamics, Inc. P.O. Box 3073 Princeton, New Jersey 08543	C.D.I. Report No. 93-01

9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)	10. SPONSORING/MONITORING AGENCY REPORT NUMBER
AL/EQS-OL 139 Barnes Drive, Suite 2 Tyndall Air Force Base, Florida 32403-5323	

11. SUPPLEMENTARY NOTES

Contracting Officer's Technical Rep.: Capt. Floyd Wiseman

12a. DISTRIBUTION/AVAILABILITY STATEMENT	12b. DISTRIBUTION CODE
Distribution authorized to US Government agencies only because of the proprietary nature of the research. Subject Category – Fuel Jettisoning	

13. ABSTRACT (Maximum 200 words)

The present effort has focused on the formulation of a preliminary version of a model of fuel jettisoning, FJSIM, designed for implementation on a desktop computer. In the resulting Version 0.0 of FJSIM, the user may enter any one of a wide range of aircraft configurations, flight paths, meteorological conditions, and measurement grids through menu-driven input/output facilities and obtain graphical output as to ground deposition and evaporation time histories. One of the strengths of the FJSIM model is that it directly incorporates the effect of the aircraft wake on the fuel spray trailed from the aircraft, using near wake and far wake models validated during the development of its parent codes, AGDISP and FSCBG. The present effort has also entailed addressing technical issues associated with hydrocarbon fuel jettisoning, in particular the implementation of a multicomponent evaporation model. The analysis presently in place has produced qualitatively and quantitatively reasonable results both in evaporation calculations for isolated droplets as well as in fully coupled calculations of airborne fuel jettisoning. Both of these classes of computations have confirmed earlier conclusions that the likely groundfall of JP-8 fuel is substantially higher than the more volatile JP-4, reiterating the need for a careful assessment of the environmental impact of fuel jettisoning events involving JP-8. The fundamental conclusion of the work to date is that FJSIM is a suitable starting point for full scale development of a flexible, practical fuel jettisoning simulation suitable for use on desktop computers.

14. SUBJECT TERMS	15. NUMBER OF PAGES 68
Fuel jettisoning; Gaussian model; Multicomponent evaporation	16. PRICE CODE

17. SECURITY CLASSIFICATION OF REPORT UNCLASSIFIED	18. SECURITY CLASSIFICATION OF THIS PAGE UNCLASSIFIED	19. SECURITY CLASSIFICATION OF ABSTRACT UNCLASSIFIED	20. LIMITATION OF ABSTRACT UL

NSN 7540-01-280-5500

Standard Form 298 (Rev. 2-89)
Prescribed by ANSI Std. Z39-18
298-102

Figure C-5. Completed SF 298

author; credit for the use of copyrighted material; or
acknowledgement of significant assistance received.
Acknowledgements should not thank AL/EQ project managers for funding
a project nor should they thank people for merely doing their jobs.
Also include the report numbers and titles of associated efforts and
show how they relate to the work reported. The preface will give
the period of performance, the name and complete address of the
contractor (if a subcontractor, the prime contractor will also be
identified), the contract number, the Armstrong Laboratory
Environics Directorate as the sponsor and the name of the AL/EQ
Project Officer and the office symbol. The Preface will occur as
page iii of the report. For examples of all types of Preface pages,
see Figures C-6, C-7, and C-8.

E. EXECUTIVE SUMMARY

An Executive Summary (page v of report) will be written in
simple, straightforward language and will tell the reader what the
research is about. it will provide a preview of what we did, why we
did it, how we did it, what the results were, what we concluded,
what we recommended, and who can best use the research. Format for
the Executive Summary is outlined below:

A. OBJECTIVE: What were we trying to do?
B. BACKGROUND: Why were we trying to do it? What had been
done? With what success? What were some of the problems? What
remained to be done? Any other material needed by reader.
C. SCOPE: What did we actually do? What did we not do? Why?
D. METHODOLOGY: What methods were available? Which did we
choose? Why did we choose this?
E. TEST DESCRIPTION: How did we do our testing?
F. RESULTS: What did we find out?
G. CONCLUSIONS: What do our results mean? To Whom?
H. RECOMMENDATIONS: What do we recommend? How can the
research best be used? Is further research needed.?

The Executive Summary should be concise but complete. Under no
circumstances should it exceed five single-spaced pages, even for a
long technical report. It should be written in such a way that the
Technical Editor could use it to write a magazine article or develop
an EQTECHS without having to read the report. For an example of an
Executive Summary, see Figure C-9.

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PREFACE

This report was prepared by Acurex Environmental Corporation, 555 Clyde Avenue, Mountain View, CA 94039, EPA Contract No. 68-D2-0063, for the U.S. Environmental Protection Agency (EPA) and the Armstrong Laboratory Environics Directorate (AL/EQ), Suite 2, 139 Barnes Drive, Tyndall Air Force Base, Florida 32403-5319.

This final report describes measurements of background concentrations of airborne toxic pollutants in Booth 2, Building 845, Travis AFB, CA; design and construction of modifications to the booth ventilation system; measurements of airborne toxic pollutants in the modified booth during split-flow and recirculating ventilation; and a projective analysis of equivalent personnel exposures and net costs to operate flow reduction and emission control systems at varying recirculation rations.

The authors wish to acknowledge the technical support provided by Capt Jones and MSgt Smith of the Travis AFB Bioenvironmental Engineering Section.

The work was performed between February 1991 and September 1992. The AL/EQS project officer was Dr. Joseph D. Wander. EPA project managers were Charles H. Darvin and Jamie K. Whitfield.

Figure C-6. Preface (page iii)

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This report was orginally prepared by Universal Energy Systems, Inc., under Contract number F49620-85-C-0013 for the Air Force Office of Scientific Research, Bolling Air Force Base, Washington D.C. It containe results of summer faculty research sponsored by the Air Force Engineering and Services Center, Engineering and Services Laboratory, Tyndall Air Force Base, Florida 32403-6001.

This report covers research performed by Dr. James Smith of Vanderbilt University between June and August 1988. The report is being reprinted and submitted to Defense Technical Information center because of its widespread interest to the DOD Engineering and Services community. The AL/EQC Mentor was Captain Philip Brown. The AL/EQ Summer Faculty Coordinator was Mary Reynolds.

Figure C-7. Preface for Summer Faculty Report

PREFACE

This report was submitted as a thesis to The Graduate School at the University of Alabama at Birmingham in partial fulfillment for the degree of Master of Science in Public Health. The thesis covers work performed by Mr. Daniel A. Turek The effort was partially funded by the Air Force Civil Engineering Laboratory, now the Armstrong Laboratory Environmental Quality Directorate.

This thesis is being published in its original format by this agency because of its interest to the worldwide scientific and engineering community. The AL/EQW Project Officer is Bruce J. Nielsen.

This thesis is being published in its original format by this Directorate because of its interest to the worldwide scientific and engineering community. This thesis covers work performed between January 1992 and December 1993. The AL/EQ Project Manager was Dr. John Goatson.

Figure C-8. Preface for Thesis Report (page iii)

EXECUTIVE SUMMARY

A. OBJECTIVE

The purpose of this document is to provide personnel involved in environmental restoration projects with information regarding the technology known as *in situ* soil venting.

B. BACKGROUND

In situ soil venting, also commonly known as soil vapor extraction, is rapidly becoming a widespread technique for the remediation of sites contaminated with volatile compounds. In this process, the soil is decontaminated in place by inducing air flow through contaminated soil zones. The volatile contaminants are vaporized and are removed in the gas stream extracted from the soil. Emissions control devices are often necessary for treatment of the gas stream prior to discharge. *In situ* soil venting has been proven to be an effective and economical decontamination technology in many cases.

C. SCOPE

This document presents and analyzes the advances which have been made in implementation and understanding of *in situ* soil venting during the past ten years. Section I is an introduction to the technology. Section II provides an overview of the literature, detailing the major points of each article reviewed. Section III discusses how various site conditions will determine the effectiveness of the technology. Section IV describes the variety of system designs in common usage and discusses the impact of each design approach upon results. Section V describes the behavior of soil venting systems and the status of development of methods for predicting contaminant removal. Section VI details cost data obtained from field implementations. The conclusions of this study are listed in Section VII.

D. CONCLUSIONS

In situ soil venting is an attractive and economical remediation technology for many cases of volatile contaminant spills. At this point, the limitations of the technology are not well-defined; however progress has been made recently in expansion of its applicability. As with any *in situ* technique, projection of the time required for site cleanup and the effectiveness of cleanup is uncertain. Future studies, including lab-scale investigations of contaminant removal mechanisms and well-documented field implementations will improve the understanding of the technology.

NOTE: THIS ONE-PAGE EXECUTIVE SUMMARY DOES NOT INCLUDE METHODOLOGY, TEST DESCRIPTION, RESULTS, AND RECOMMENDATIONS. THE ONE YOU MUST WRITE WILL PROBABLY NEED TO ADDRESS ALL OF THESE.

Figure C-9. Executive Summary (page v)

F. TABLE OF CONTENTS

Begin the Table of Contents on a new right-hand page. List principal headings (to third-order head only) as they appear in the report, and place the page numbers at the right-hand margin. Put section numbers, if used, at the left-hand margin and indent the headings. For an example, see Figure C-10.

Center continuation page headings as follows: TABLE OF CONTENTS (CONTINUED) and/or TABLE OF CONTENTS (CONCLUDED).

Do not use a Table of Contents page for reports of eight pages or less.

Under no circumstances will front matter be listed in the Table of Contents.

I. LIST OF FIGURES

Use listing only if report includes more than four figures. Center continuation page headings as follows: LIST OF FIGURES (CONTINUED) and/or LIST OF FIGURES (CONCLUDED). Titles of Figures will be typed with most important words capitalized.

J. LIST OF TABLES

Include listing only if report contains more than four tables. Center continuation page headings as follows: LIST OF TABLES (CONTINUED) and/or LIST OF TABLES (CONCLUDED). Type titles with most important words capitalized.

NOTE: Place the Figures and Tables listings on one page if the listings are short. If combined listings are larger than one page, use a separate page for each listing. For an Example of Lists of Illustrations, See Figure C-11.

K. GLOSSARY OF TERMS

Define all unusual terms the first time they are used in text. If defined in a footnote, use asterisks. If many such terms are needed, repeat them in a Glossary of Terms.

L. ABBREVIATIONS, ACRONYMS, AND SYMBOLS

Abbreviations lend brevity and economy to report writing; however, they should be used sparingly. Spell out each abbreviation the first time it is presented in the text and show the abbreviation in parentheses; e.g., Electromagnetic Pulse (EMP). Be consistent in spelling out and abbreviating short words throughout the text and use approved and accepted abbreviations. Use Government Printing Office Style Manual abbreviations wherever possible.

TABLE OF CONTENTS

Figure C-10. Table of Contents

LIST OF FIGURES

LIST OF TABLES

Figure C-11. List of Illustrations

THE BODY OF THE REPORT

A. BREAKDOWN OF TEXT

Divide the body of the report into sections numbered with Roman numerals. Include a First-Order section heading and use Second-, Third-, Fourth-Order and subordinate headings, as required, for clarity. See the Standard Outline example in Figure C-12. Other format examples are included in the Author's Handbook.

1. Introduction

The Introduction (SECTION I) must, as a minimum, be organized into A. OBJECTIVE, B. BACKGROUND, and C. SCOPE/APPROACH. First, state the purpose of the work and provide other general or background information the reader needs to understand the report. Describe briefly the information contained in the follow-on sections. The Introduction should show the relationship between the task being described and previous or current work. It is also desirable to indicate the benefit to be realized if the goal is achieved. Present the Introduction in narrative style. Do not present the scope of the report by repeating the contents. Do not go into such detail that much of the material will be repeated word for word later in the report. Try to provide the reader with a short overview of where you intend to go and how you intend to get there.

2. Main Text

This is an absolute requirement for any technical report and must include information about materials, test equipment, tests performed, techniques, methods, circumstances, calculations, problems encountered, and results obtained. Another individual qualified in the same field should be able to take your technical report and reproduce the work with the same result. The main text may be divided into several separate sections, each with its own title.

Be clear, concise, and informative so that those who need the information can obtain it without being saturated by excess verbiage. Remember, professional technical writing is marked by simplicity, accuracy, and readability.

C. SURVEY OF DISTRIBUTED DATABASE MANAGEMENT SYSTEMS

In this section, the five systems surveyed are the most relevant to the project described in the introduction. The systems are MULTIBASE, R*, SDD-1, distributed INGRES and CSIN. This discussion covers the architectures of these systems and the processing of queries by the individual systems in a distributed environment.

1. The MULTIBASE System

a. Background

MULTIBASE is a distributed database system that provides the users an integrated access to preexisting, heterogeneous distributed databases (References 1 and 2). It is a software system that allows end users to query the database in a common query language. Since all the component databases are heterogeneous, the main goal of MULTIBASE is to provide a fast, easy, and integrated access/retrieval system for the various heterogeneous databases without changing the local database systems or their application programs.

MULTIBASE is a read-only database, and updates can be done only where the data object is stored. Therefore, each local site maintains autonomy for updates. Local application programs can operate, using the existing local interfaces. The language provided to global users by MULTIBASE is called DAPLEX (Reference 3), which is a data definition and manipulation language for data base systems. The model used is the functional data model (Reference 4).

b. Architecture of MULTIBASE

MULTIBASE is particularly interesting to us since it deals with the problem of integrating heterogeneous databases. The schema architecture and the component architecture are the most important elements to understand in the overall architecture of MULTIBASE.

(1) Schema-Architecture The task of providing the users with a uniform database involves both a "homogenization" of the various heterogeneous databases and a resolution of data incompatibilities to product integration.

(2) Levels of Schema-Architecture. There are three levels of schemata, a global schema (GS) at the top, an integration schema (IS), one local schema (LS) per local database at the middle level, and one local host schema (LHS) per local database at the bottom level.

Figure A-10. Example of Text Page using Traditional Outline Format.

3. Conclusions

To obtain results without reaching conclusions is impossible. These conclusions, whether positive, negative, neutral, good, bad, or indifferent, must be included.

4. Recommendations

This section is optional. However, if recommendations are a logical outgrowth of the work, they should be placed under this heading to provide maximum visibility. Your recommendations may be both immediate and long-term.

B. ARRANGEMENT

1. Text

The text will be divided into logically separate parts, called sections. Each section will be designated by a sequential Roman numeral and a short caption, both of which will be in capital letters. The section designation will be centered on the first typing line of the page with the short caption centered on the page two lines below the section designation line. The text will begin three lines below the caption. Section I begins at the top of the first available full right-hand page following the front matter. All other sections may begin on either a left- or right-hand page. Sections, paragraphs, and subparagraphs will be prepared in the following format.

SECTION I

FIRST-ORDER HEADING (U)

A. (U) SECOND-ORDER HEADING

1. (U) Third-Order Heading

a. (U) Fourth-Order Heading

(1) (U) Fifth-Order Heading, usually with run-in text.

Of course, if classification is not required, the portion markings (U) (C) (S) will not be shown.

Although the ANSI Standard uses the decimal paragraph numbering system, it does not establish this format for use in technical writing. This, and other formats may be accepted, if they are reader-friendly. a judgement to be made in advance by the Technical Editor.

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Classification, if required, will be shown as illustrated above. Space will be used to the maximum extent within printing area limitations. Portions of pages will not be left blank for the purpose of beginning a major paragraph or subsection on a new page.

2. Footnotes

Identify text footnotes on each page with an asterisk (* , double asterisk (**), or superscript number (') depending on the number of footnotes. Place the information at the left margin at the bottom of the page and separate it from text with a solid 1-inch line set flush. This line will be two lines below the last line of text and two lines above the first footnote. Double-space between footnotes but single-space footnotes.

3. References

A reference gives credit to the work of other authors in the same field of endeavor, is a source of related information, or contains useful facts or information.

A reference is a published document that is available to the reader. Telephone communications, letters, memoranda, personal conversations, and unpublished data are not readily available to the reader and should not be numbered references. Make them footnotes to the text and identify them with an asterisk or, preferably, place them in an appendix. Also, provide enough of an explanation so that the reader is not in doubt about the nature of the communication.

References can be cited in text by either of the following:

a. Numbered according to occurrence in text (Reference 1) or (1). This requires a numbered Reference List at the end of text and may prove cumbersome if different persons are preparing sections of the report.

b. Author and date, such as (Jones, 1987). The most popular and easiest method to use with a multiauthor text is the author and date method because all it requires is an alphabetical reference list at the end.

Whichever method you choose, be consistent within the report.

List references at the back of the report in the same numerical sequence as they appear in the text. Underscore book and report titles and journal names; use quotation marks for titles of journal articles. Include authors, titles, sources, identifying numbers, publishing agency name and address, publication dates, and applicable security classifications. Reference citations must be

accurate and complete. Entries must be uniform in style throughout
the report. See the Author's Guide for specific examples. <u>Do not
list classified references in technical reports with unlimited
distribution</u>.

4. Trademarks and Company Names

Trademarks will be kept to a minimum. However, when
inclusion in a report cannot be avoided, trademarks will be
identified by an uppercase <u>R</u> following the name. For example:
Teflon R . For reports containing a large number of trademarks, or
trademark references, a notice statement on the inside front cover
can be used to indicate which products are trade names (see Appendix
A).

Company names, trademarks, corporate seals, or mottos shall
not be placed on illustrations. The performing contractor's name
appears on the cover, on DD Form 1473, and in the Preface.

5. Bibliography

A bibliography is optional and should be used to list sup-
plementary reports and documents not called out in the text. Bib-
liographic entries contain the same information as references, but
are listed in alphabetical order (by author, whenever possible), and
are not numbered.

C. ILLUSTRATIONS

Locate illustrations (including figures and tables) as near as
possible to the first text reference unless the report contains only
a few text pages and many illustrations. In such cases,
illustrations may be placed in numerical sequence at the back of the
text. Illustrations should be placed so that they may be viewed
without turning the page sideways. If this is not possible, place
them sideways so that they can be seen by rotating the page
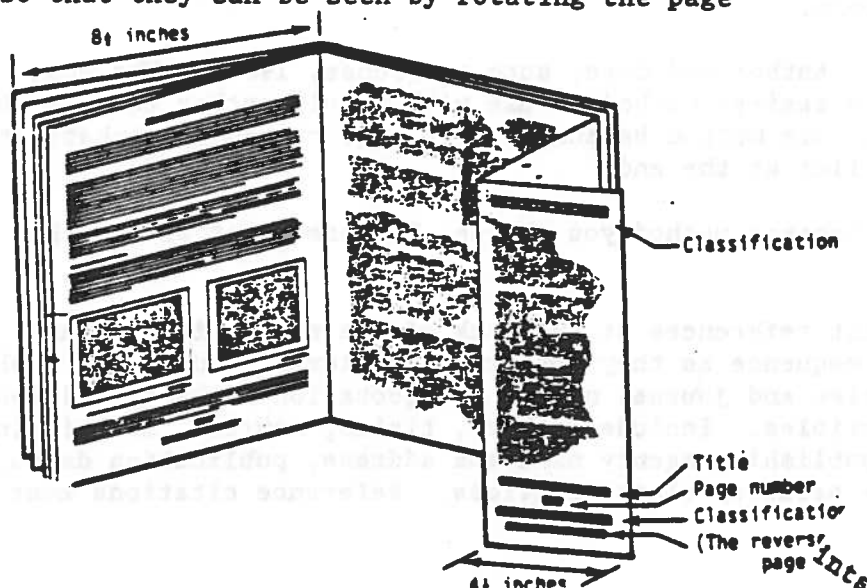clockwise.

Figure C-13. Foldout.

Oversize illustrations (foldouts) are to be avoided whenever possible. This can be done by dividing the material to appear on facing or successive pages. If foldouts must be used, make them begin on a right-hand (odd-numbered) page and number as one page with the reverse indicated as blank so that the next page will be odd-numbered. Foldouts must fold out from the binding edge and cannot exceed 10 by 15 inches overall image area (see Figure C-13).

Examples of figures and tables can be found in Figures C-13, C-14 and C-15.

Treat illustrations consistently throughout a report and make sure they supplement the text and are acceptable to the reader. Details, callouts, and numbers should be legible after final reproduction. When practical, crop or mask photographs to eliminate insignificant details. Do not add borders, frames, unnecessary lines or background tones unless they contribute significantly to clarity. Pencil and hand-drawn lines will only be accepted with rough drafts. For reproducible copy, submit clear tone or line art only.

1. Photographs

Photographs will be black and white, prescreened to the required size by Photomechanical Transfer (PMT). Photographs will be mounted above the figure caption and glued in place for the camera-ready copy. Distracting details should be avoided. People should not be included except for size comparison or to emphasize a part of the subject. Do not type or write on photos, and do not roll them for shipping. Photographs in text should be labeled as figures, not photos.

2. Drawings

Drawings, charts, and graphs will be prepared in black permanent ink on white bond, vellum or tracing paper. Line drawings and charts will contain only information pertinent to the report. Coarse grid lines will be used in graphs, spaced as far apart as practical. Graphs will be free of all lines and lettering not essential to the reader's clear understanding of their message.

Engineering drawings will be simplified and reduced, but not to the point where a legible reproduction cannot be made. Remember that DTIC reduces the Technical Report to microfiche and "prints up" for hard copy, causing small numbers and letters to fade out. For this reason, blueprint drawings are generally not acceptable. All information not pertinent to the report will be deleted. If simplified drawings are still too large and cannot be satisfactorily reduced to foldout size (printed area not to exceed 10 by 15 inches), a series of drawings will be used, each containing a portion of the total drawing, numbered and captioned as a continuation of the same figure.
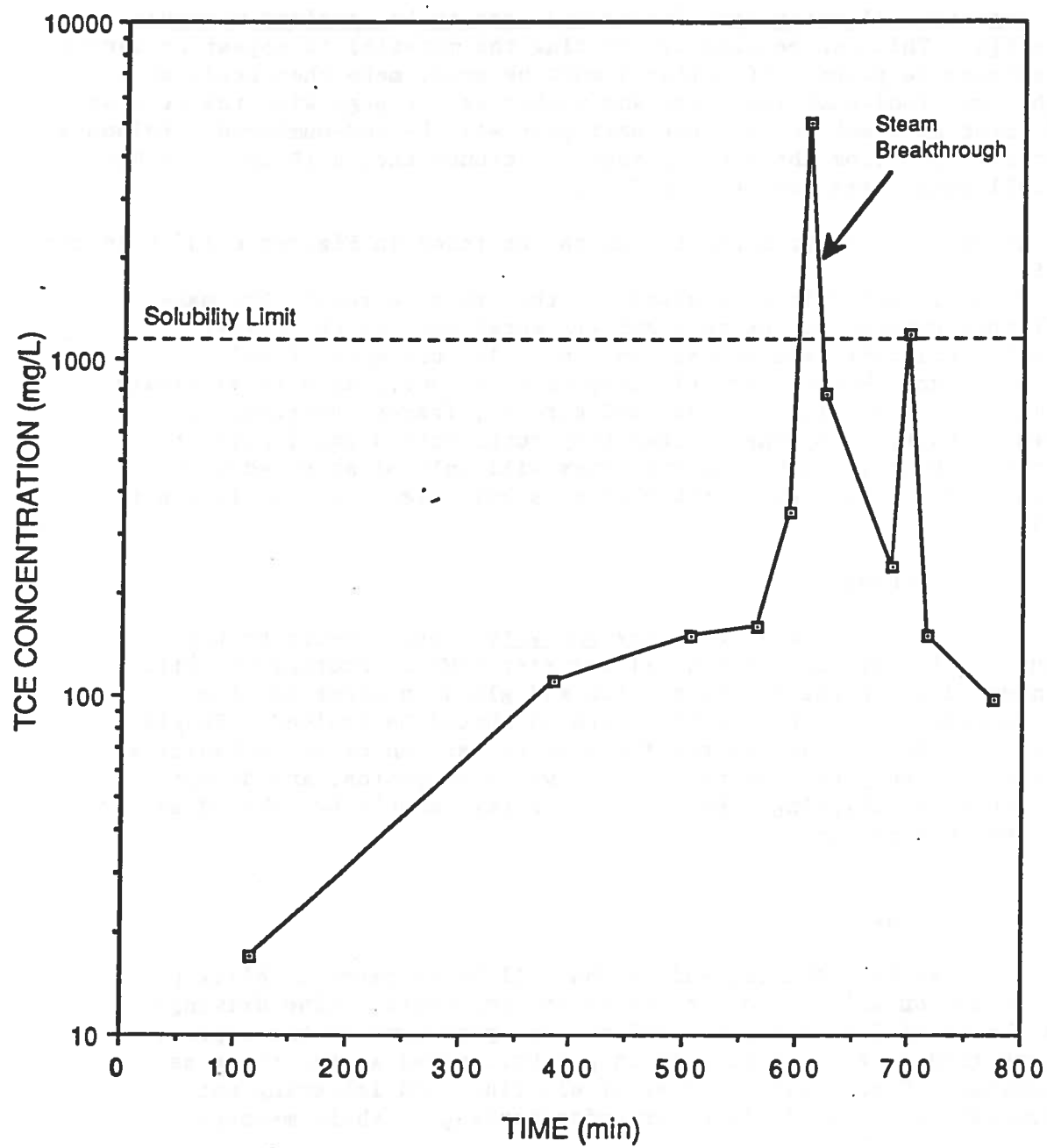
Figure 13. TCE Concentrations in Effluent from Run 5

C-14. Example of Figure

TABLE 5. RESULTS OF SAMPLING AND ANALYSES OF CONDENSATE FROM RUN 5

Sample Number	Sample Collection Time (min)	TCE Concentration (mg/L)	Measured Free Phase TCE (ml)	Interpolated Mass of TCE Recovered (g)	Cumulative Mass of TCE Recovered (g)	Cumulative Mass of TCE Recovered (%)
5-C2	115	17		0.36	0.36	1.2
5-C7	385	110		3.09	3.45	11.8
5-C11	505	150		1.91	5.36	18.4
5-C13	565	160		1.02	6.38	21.8
5-C14	595	350		1.12	7.49	25.7
5-C15*	595–625	>1100	5.1	9.55	17.04	58.4
5-C16	625	780		2.98	20.03	68.6
5-C18	685	240		1.38	21.41	73.3
5-C19*	685–715	>1100	0.1	2.25	23.65	81.0
5-C20	715	150		0.57	24.23	83.0
5-C22	775	97		0.74	24.97	85.5
5-C25		6.2				

* Composite sample collected during the period indicated in which
separate phase TCE was observed and measured.

Figure C-15. Example of Table

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3. Computer Printouts

Computer printouts will be kept to a minimum and dot matrix computer printouts are unacceptable. When their use is unavoidable, the quality of these printouts will be the same as required for reproducibles. They will be run on unlined paper and either will conform to printing area (6 1/2 by 9 inches) requirements or will be suitable for reduction (not to exceed 20 percent) to meet those requirements. DTIC will not accept poor reproductions of computer printouts. Pages containing computer printouts will be numbered consecutively with arabic numerals, according to where they appear in the text. Page numbers will be centered at bottom of page on line 61. Original copies should be submitted, whenever possible, and figure and table numbers should be assigned sequentially, as appropriate.

4. Reduction

Size-for-size art may be line drawings or photographs to be reproduced the same size as the original. Oversize art is any illustrative copy such as graphs, tables, schematics, etc., that is larger than final page or space size provided. All reductions will be proportional, dimension for dimension, to the nearest 1/8 of an inch.

D. FIGURES

1. Numbering

Number figures with Arabic numerals, consecutively, as they appear in the text. Under no circumstances will Roman numerals, decimal numbers, section or chapter designations be used in figure captions within the text. Figure numbers will not be repeated; Example: Figure 1a. Instead, continuation designations will be used; Example: Figure 1. Title (Continued).

Include corresponding letter designations with number for appendix figures. Example: Figure C-14.

Illustrations in sequence, such as data plots, should be gathered in an appendix.

2. Turned Pages

Place illustrations sideways if too wide for the page. Arrange so that report is turned clockwise to read. Put caption under the figure, not at bottom of page.

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3. Identification in Text

When identifying illustrations in text, precede by the word "Figure" if part of a sentence; otherwise, put in parentheses (Example' Figure 15).

4. Illustrations for Camera-Ready Copy (CRC)

Submit original art work; first-run computer printouts of plots, data, etc., with sharp clear print; and glossy photographs, whenever possible.

5. Source of Illustrations

Illustrations taken from other reports will show the source information in parentheses at the end of the figure caption.

6. Explanatory Information

Label (call out) all information on figures; the reader should not have to refer back to the text for such information as units, meanings of solid, dashed, dotted lines, shading, etc. Text explanation should refer to related data, comparisons of measurements and results, etc. Use abbreviations and symbols, if adequately defined, in the text. Be consistent in use of upper- or lower-case letters; match callouts and letters with those in text.

E. TABLES

Tables should be as simple as possible so that the reader can easily grasp the meaning of the data. Avoid vertical and horizontal lines whenever spacing can be used effectively.

Align tabular material, especially numbers, in neat and orderly fashion. Avoid crowding and cluttering. Be sure that title and boxheads are precise and accurate. Separate the column headings from the body of the table with a horizontal line.

Give applicable units of measure or degree in the column headings of tables. When tables continue on two or more pages, note the continuation and repeat the column headings and rules on each page, except column headings need not be repeated on the second page for continuations on two facing pages turned sidewise.

1. Numbering

Number tables in Arabic numerals, consecutively, as they appear in text. No chapter, decimal, or section designations will be used as part of table numbers in text.

Include corresponding letter designation with number for tables in appendices (Example: TABLE A-1).

2. Turned Pages

Place tables sideways if too wide for page. Arrange so that report is turned clockwise to read.

3. Titles and Column Headings

Center the table number and title above the table in capital letters using the same size print as for text. Capitalize only the first word of a column heading. Place entire title on one line, if possible. Use all caps for "TABLE 1. TITLE (CONTINUED)." on each continued page and "TABLE 1. TITLE (CONCLUDED)." on the final page.

4. Identification in Text

When identifying tables in text, precede by the word "Table" if part of a sentence; otherwise, put in parentheses (Example: Table 1).

5. Footnotes to Tables

Use superscripts a, b, c, etc., to identify footnotes to tables. Place the superscript letter after words but before numbers, with no space in between. Place table footnotes under the tables, not at the bottom of the page of text. Indent first line five spaces from the left margin of the table; put subsequent lines at the margin of the table.

6. References on Tables

When Tables are taken from another source, list the source in parentheses after the table title.

7. Abbreviations and Explanations

Tables should stand alone; the reader should not have to refer back to the text to understand the table. Abbreviate in column headings, if necessary, because of space limitations. Place explanation below the table at "Notes." Include units of measure or degree in the column headings; do not repeat in the columns.

F. APPENDIXES

Appendixes may be used for material related to or additional to the report, not essential to understanding the text, but which provides vital details to the critical reader. They may provide detailed descriptions or explanations of some points in the text such as test data, justification of an assumption, derivations of formulas, tabulations of frequent reference, details of special instrumentation and lists of materials. An appendix will not include information which logically belongs in the text, e.g.,

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specifications, exhibits, and project work requirements. The appendix number and caption will be positioned on the page in the same manner as section headings. Appendix A must begin on a righthand page. If separate title pages are used for appendices, each title page will begin on a right-hand page. Page numbering is a continuation of text page numbering. Separate Table of Contents, List of Figures, or List of Tables are not needed. These should be included in appropriate front matter.

Figures, tables, equations, and references in appendices will be numbered with the letter designation of the appendix in which they appear, followed by a dash and the sequential number of the figure, table, equation, or reference in the appendix. For example, Figure A-1, Table B-2, Equation (A-7), Reference B-4.

One reference list should suffice for the text and appendixes. If one list is used, continue consecutive arabic numbering for references. This list should appear after the last appendix. If separate lists are used for each appendix, number references A-1, A-2, etc. and place list at end of each appendix.

APPENDIX D

INSTRUCTIONS FOR COMPLETION OF DTIC FORM 64 AND SF 298

The attached instruction sheets should help you in correct and accurate completion of DTIC Form 64 and SF 298.

INSTRUCTIONS FOR COMPLETING REQUEST FOR DTIC DATABASE PRODUCTS

SUBMIT COMPLETED DTIC FORM 64 TO THE DOCUMENTS SERVICES SECTION OF THE
STRUGHOLD AEROMEDICAL LIBRARY, Attn: AL/DOKLD, Building 155, Room 3,
2511 Kennedy Circle, Brooks AFB TX 78235-5122, (DSN 240-) 210/536-2254
(Requester need complete only the blocks indicated below)

Block 4: Requester's Name: Furnish the name of the person for whom the
search request is being submitted.

Block 5: Office Code: Enter the office symbol of the person for whom the
search request is being submitted.

Block 6: Category: Check appropriate block to indicate the whether the
person for whom the search request is being submitted is an employee of the
Department of Defense (DOD), other U. S. Government agency (GOVT), or a Con-
tractor (CONT).

Block 7: Requester's Telephone Number: Telephone number of the person for
whom the request is being submitted.

Block 8a: Database(s) to be Searched: Indicate if information is desired
from the Work Unit Information System (WUIS), the Technical Report System
(TR), the Independent Research and Development System (IR&D, contains proprie-
tary information about contractor capabilities - only DOD and GOVT personnel
may request), Referral listings (such as Information Analysis Centers, IACs),
or any combination of these databases.

Block 8b: Frequency: Indicate whether the search is a one-time search, or
for a recurring current awareness bulletin.

Block 9a: Classification: Check the highest level of security classifica-
tion materials that the requester needs and is authorized to receive. Unclas-
sified TR bibliographies consist of unclassified references to technical
reports of all classifications. All current awareness bibliographies are
unclassified. All IR&D reports are unclassified but proprietary.

Note: It is suggested that if classified descriptions are desired,
order two searches, the first unclassified, and the second restricted entirely
to classified descriptions. This will reduce the bulk of the material requir-
ing security protection.

Block 9b: Check the block for Restricted Data and/or CNWDI (Critical Nuclear
Weapons Design Information) if the requester needs the material and is author-
ized to receive it.

Block 10: Data Sources Desired: Specify the data source(s) to be searched
for this report. (Not applicable to IR&D. Normally all sources are included,
however, the requester may specify.)

Block 11: Date Requested: Provide the date that your request is transmitted
to the library.

Block 12: Date Results Needed: Indicate the date that the report is needed
to be of maximum value. Reports are routinely supplied in 2-4 weeks or less.
(Do not use ASAP or other similar designations)

Block 16: Scope of Search: Indicate whether the most recent TR file is
desired, whether active or inactive records for WUIS, whether more than the 2
most recent fiscal years for IR&D, and/or specify your year range.

Block 18: Information Required: Describe the information required in one or
more sentences that relate keywords and concepts in their logical relation-
ship. Include commonly used synonyms, etc. It is helpful to specify
inclusion or exclusion of other logically related concepts.

Block 19: Provide information, as specified, concerning the purpose of the
search. IN RARE CASES, WHERE THE SEARCH APPLIES TO MORE THAN 1 WORK UNIT, BE
SURE TO PROVIDE DATA FOR EACH IN ORDER TO RECEIVE CREDIT FOR THE SEARCH.

GENERAL INSTRUCTIONS FOR COMPLETING SF 298

The Report Documentation Page (RDP) is used in announcing and cataloging reports. It is important that this information be consistent with the rest of the report, particularly the cover and title page. Instructions for filling in each block of the form follow. It is important to *stay within the lines* to meet *optical scanning requirements.*

Block 1. Agency Use Only *(Leave blank).*

Block 2. Report Date. Full publication date including day, month, and year, if available (e.g. 1 Jan 88). Must cite at least the year.

Block 3. Type of Report and Dates Covered. State whether report is interim, final, etc. If applicable, enter inclusive report dates (e.g. 10 Jun 87 - 30 Jun 88).

Block 4. Title and Subtitle. A title is taken from the part of the report that provides the most meaningful and complete information. When a report is prepared in more than one volume, repeat the primary title, add volume number, and include subtitle for the specific volume. On classified documents enter the title classification in parentheses.

Block 5. Funding Numbers. To include contract and grant numbers; may include program element number(s), project number(s), task number(s), and work unit number(s). Use the following labels:

C	-	Contract	PR	-	Project
G	-	Grant	TA	-	Task
PE	-	Program Element	WU	-	Work Unit Accession No.

Block 6. Author(s). Name(s) of person(s) responsible for writing the report, performing the research, or credited with the content of the report. If editor or compiler, this should follow the name(s).

Block 7. Performing Organization Name(s) and Address(es). Self-explanatory.

Block 8. Performing Organization Report Number. Enter the unique alphanumeric report number(s) assigned by the organization performing the report.

Block 9. Sponsoring/Monitoring Agency Name(s) and Address(es). Self-explanatory.

Block 10. Sponsoring/Monitoring Agency Report Number. *(If known)*

Block 11. Supplementary Notes. Enter information not included elsewhere such as: Prepared in cooperation with...; Trans. of...; To be published in.... When a report is revised, include a statement whether the new report supersedes or supplements the older report.

Block 12a. Distribution/Availability Statement. Denotes public availability or limitations. Cite any availability to the public. Enter additional limitations or special markings in all capitals (e.g. NOFORN, REL, ITAR).

> DOD - See DoDD 5230.24, "Distribution Statements on Technical Documents."
> DOE - See authorities.
> NASA - See Handbook NHB 2200.2.
> NTIS - Leave blank.

Block 12b. Distribution Code.

> DOD - Leave blank.
> DOE - Enter DOE distribution categories from the Standard Distribution for Unclassified Scientific and Technical Reports.
> NASA - Leave blank.
> NTIS - Leave blank.

Block 13. Abstract. Include a brief *(Maximum 200 words)* factual summary of the most significant information contained in the report.

Block 14. Subject Terms. Keywords or phrases identifying major subjects in the report.

Block 15. Number of Pages. Enter the total number of pages.

Block 16. Price Code. Enter appropriate price code *(NTIS only).*

Blocks 17. - 19. Security Classifications. Self-explanatory. Enter U.S. Security Classification in accordance with U.S. Security Regulations (i.e., UNCLASSIFIED). If form contains classified information, stamp classification on the top and bottom of the page.

Block 20. Limitation of Abstract. This block must be completed to assign a limitation to the abstract. Enter either UL (unlimited) or SAR (same as report). An entry in this block is necessary if the abstract is to be limited. If blank, the abstract is assumed to be unlimited.

APPENDIX E

TECHNICAL REPORT PROCESSING CHECKLIST

As a project manager you should complete the following checklist
before submitting a camera-ready technical report, technical paper,
or technical memorandum to Technical Editing.

FRONT MATTER:

_____Notice Page

_____Appropriate notices including distribution and review statement
_____Signatures through Division Chief

_____SF 298

_____AL/EQ Document Number
_____Distribution Statement
_____Contract and funding numbers
_____Distribution Statement
_____Addresses
_____Project Manager's name and telephone number under Block 11
_____Abstract
_____Subject Terms
_____Pages numbered i and ii

_____Preface

_____Contract, Thesis or Summer Faculty information
_____Period covered
_____Project Officers
_____Acknowledgements, if any
_____Numbered as page iii

_____Executive Summary

_____Addresses Objective, Background, Scope, Methodology, Results,
       Conclusions, and Recommendations
_____Numbered as page v

_____Table of Contents starts on right-hand page
_____List of Figures
_____List of Tables
_____Glossary or List of Symbols (optional)

_____Page numbering (consecutive lower-case Roman numerals,
       centered at bottom of page

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TEXT

____Page 1, Section I, Introduction starts on right-hand page
____Each Section starts on new page
____Tables and Figures are integrated with text wherever possible
____Illustrations and Equations numbered consecutively with Arabic
   numerals, not according to section
____Text pages numbered consecutively in Arabic numerals
____Sections arranged logically, oriented to reader
_____Introduction (Objective, Background, Scope)
_____Methodology
_____Results
_____Conclusions
_____Recommendations

____Reference List

_____Each document referred to is mentioned in text
_____Titles of books and journals underlined or italicized
_____Titles of journal articles set off by quotation marks
_____Commas and periods inside quotation marks
_____Consistent punctuation throughout

BACK MATTER

____Appendices

_____Labeled with capital letters
____-__Figures, tables, and equations numbered according to Appendix
   (A-1, A-2)
_____First title page on righthand page
_____All separate title pages on right-hand pages
_____Appendix pages numbered consecutively in Arabic following text

ILLUSTRATIVE MATERIAL

____No dot matrix typeface
____All art work is reproducible
____No hand-lettering or homemade equations
____Photographs must be half-tones
____Reductions must be clear

APPENDIX F.

CHECKLIST FOR WORK UNIT LIFE CYCLE

SECTION A.   OPENING A WORK UNIT

1. Has a literature search been accomplished to include at least the DTIC
WUIS and Technical Report Databases and have the results been recorded on DTIC
Form 64 (copies for R & D Case File and STINFO)?

2. Has a determination been made to proceed, based on the results of the
literature search.

3. Have the following areas been given consideration and are they being
developed.

    a. Objective. Approach. Key Words
    b. Protocol (animal or human use)
    c. Functional specialties to be considered.
    d. Required sources
       (1) Financial: Facilities: (If for a contract, has a determination
been made as to whether base support and Government-furnished equipment is to
be provided?)
       (2) Skills Required: labor hours (to include contract monitoring
labor hours, if for a contracted effort?
    e. Statement of Work
    f. Milestone Chart

4. Have the task and technical areas been identified into which the work unit
will be incorporated?

5. Has branch/division approval been obtained?

6. Has an R & D Case file been established?

7. Has all necessary Work Unit Summary Information been given to the AL/EQ
data entry person for entry into DTIC?

8. Has an AF Form 813, Request for Environmental Impact Analysis, been
submitted and have results been filed in the R & D Case File?

SECTION B. MAINTAINING A WORK UNIT

1. Could a scientist assuming responsibility for the effort understand the
Work Unit history, accomplishments, current effort, and projected work from
information included in the R & D Case File?

2. If the Work Unit project officer is changing, has a notification letter
been sent through the Division Chief to the STINFO Program Manager?

3. Are deliverables being received from the contractor?

4. Is the milestone chart being maintained?

5. Is the latest information entered into DTIC and JOCAS and is a copy filed in the Work Unit R & D Case File?

6. Has the protocol been approved and is a copy filed in the R & D Case File?

7. Are records of higher-level technology reviews being maintained?

8. Is a chronology of events being maintained and filed in the R & D Case File?

9. Are timely, quality progress reports being submitted at least annually as part of the update of the Work Unit Information System for entry into DTIC and is the latest copy filed in the R & D Case File?

NOTE: Items 10 through 15 apply to R & D performed under contract

10. Is the project manager familiar with Data item Descriptions (DIDs)?

11. Does the project manager know what data items are required on the contract, especially for technical documentation?

12. Does data received conform to Contract Data Requirements List (CDRL) in terms of quantity, quality, and timing of data submission?

13. Are the data items or other information, used and documented to analyze variations or projections from the planned conduct of the contract?

14. Is evidence of adequate surveillance of the contract available (telephone calls, trip reports, etc.)?

15. Can the project monitor readily display contract requirements and compare them to actual contractor performance?

SECTION C: CLOSING A WORK UNIT

1. Have all acceptable deliverables been received?

2. Has a final progress report summarizing the work effort and listing all the publications generated by the work unit, including the final technical report, been entered into DTIC and filed in the R & D Case File.

3. Has the STINFO Program Manager received/documented an acceptable camera-ready copy for a final technical report or certification of delivery of other products?

4. Is a copy of the final report or a reference to this document by DTIC Accession Number filed in the R & D Case File?

5. Has the project manager coordinated with the STINFO Program Manager before signing a final DD Form 250.

6. If the Work Unit is being terminated without a final report, has a Request for Waiver letter with a complete final progress report been approved by the Division Chief, Director and STINFO Program Manager and has a copy been filed in the R & D Case File?

7. Has the R & D Case File been properly closed and retired?

NOTE: ALL INFORMATION NOW SUBMITTED TO DTIC WILL BE SUBMITTED TO THE HWIS DATA SYSTEM AS SOON AS AL/EQ IS CONNECTED TO THAT SYSTEM